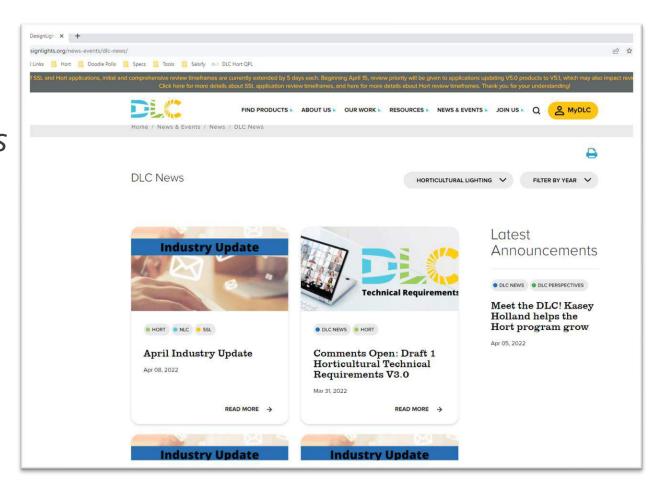


#### Welcome!

 Slides and recorded webinar will be posted on the DLC News & Events page at <a href="https://designlights.org">https://designlights.org</a> shortly after today's presentation

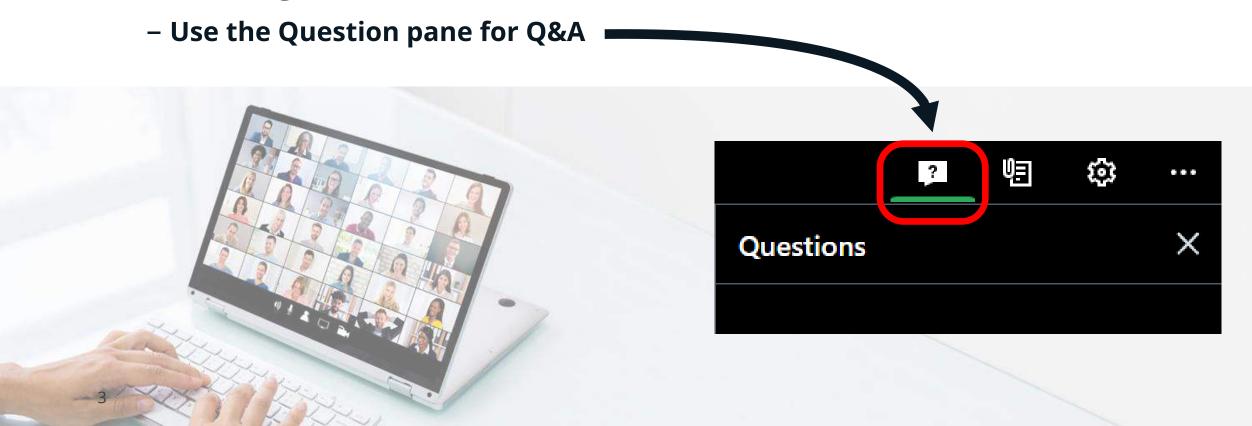
All attendees are automatically muted





#### **Webinar Orientation**

 Questions will be held until the end during a live Q&A



## **Speakers**



DLC

**Matt Turk** *Newcomb & Boyd* 



#### Poll: Who's Here Today?

- 1. Energy Efficiency Program/Implementer
- 2. ESCO/Distributor
- 3. Manufacturer
- 4. Lighting Designer/Specifier/Sales Rep
- 5. Facility Manager/Owner/Electrician
- 6. Nonprofit/Govt/
- 7. Educ/Research
- 8. Test Lab
- 9. Other

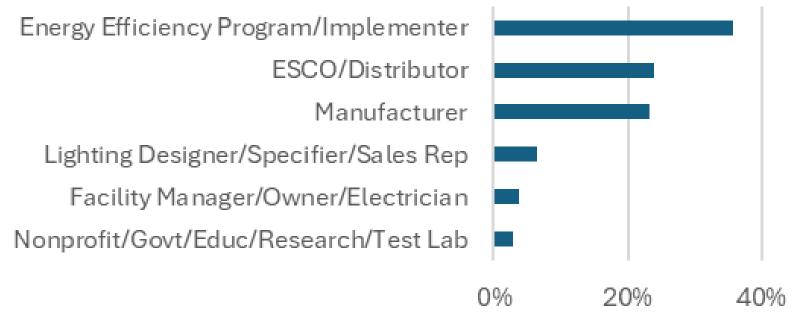


# Poll: Have you used the DLC Networked Lighting Controls Qualified Products List (NLC QPL) before?

- 1. Frequently
- 2. Sometimes
- 3. Rarely
- 4. Not yet



# Who has used the NLC QPL in the past 12 months?





More than 1800 different users



#### Agenda

Welcome, Introductions, Agenda

Introductions to the DLC and Interoperability

What's in the Networked Lighting Controls QPL?

How is the Networked Lighting Controls QPL useful?

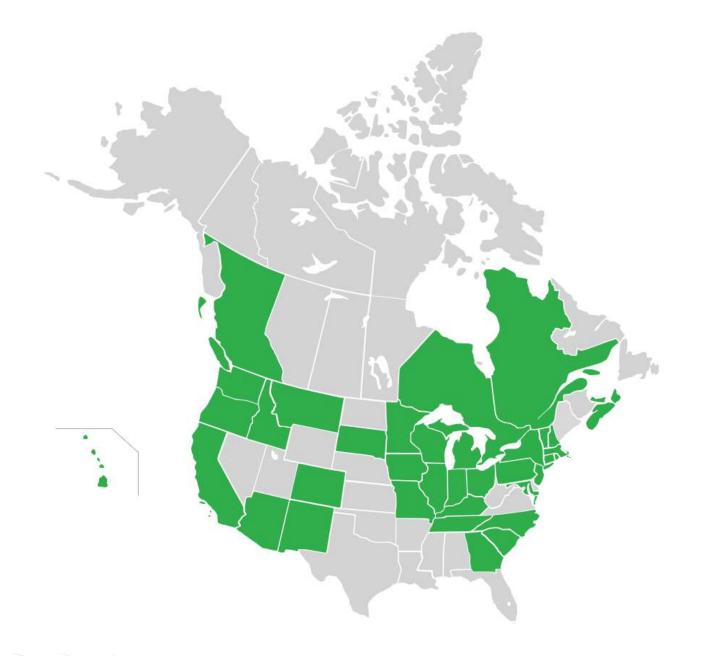
Interoperability

Cybersecurity

**Conclusion and Questions** 









70+ member utility and municipal programs (in green)

700+ non-member stakeholder organizations requiring DLC qualified product lists



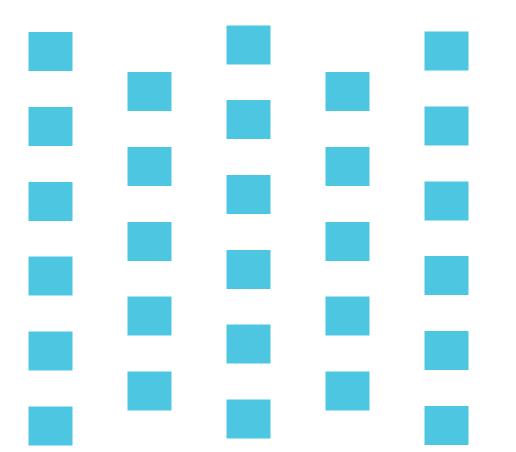
## **DLC Member Programs**

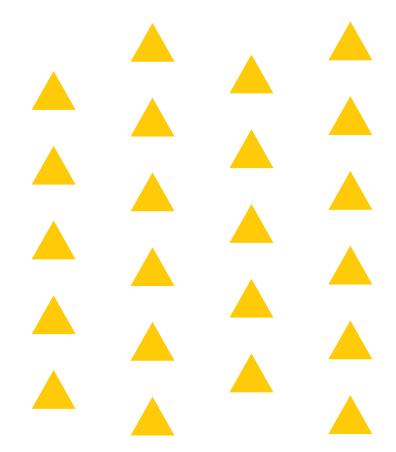
(Utilities & Municipalities)



#### **DLC Industry Partners**

(Lighting Manufacturers, Specifiers, Installers)







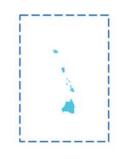
# Rebates and Incentives for Networked Lighting Controls

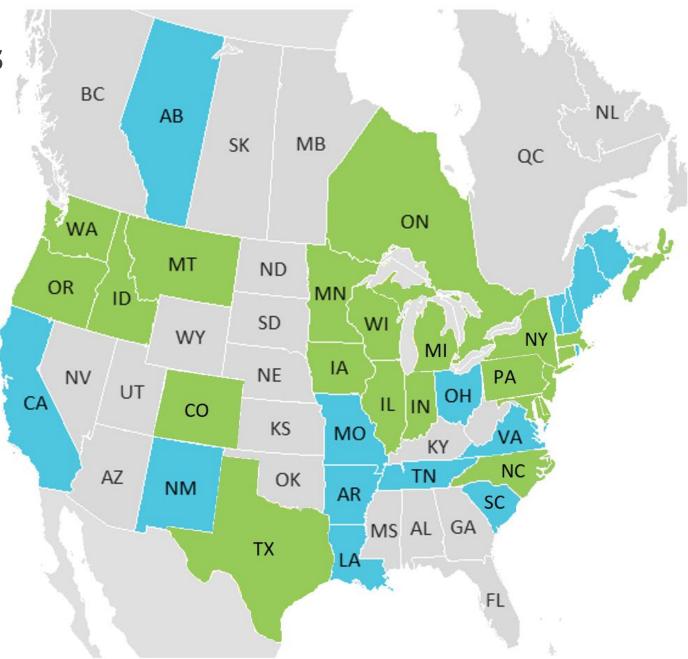


Only large NLC projects

No NLC incentives found







Incentives may not be available in all parts of each green or blue state or province.



## Interoperability the Vehicle to Owner Outcomes

Owners are asking for Outcomes requiring interoperability.

interoperability means that equipment and software from different vendors can communicate without requiring custom modifications.



## <u>Interoperability</u>

Make friends and Play well with others







#### HEARD AT THE SUMMIT

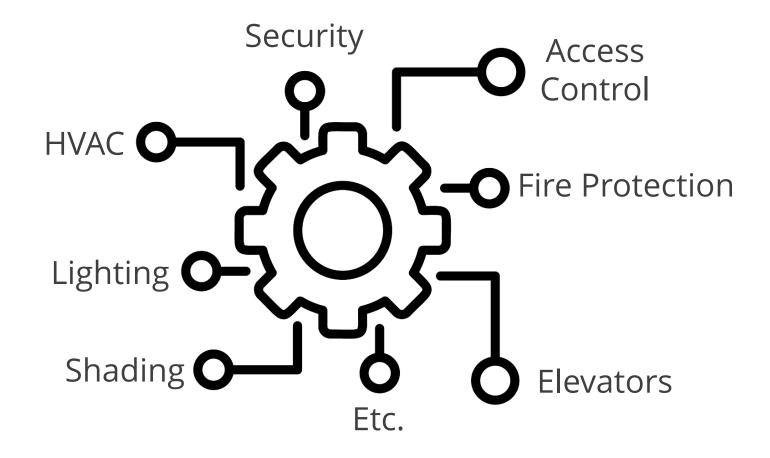


People aren't asking for integration, they are asking for positive outcomes, efficiency, and systems that work together.

"



# Interoperability transforms Building Controls Technologies enabling holistic Automation







• Energy efficient buildings



# DLC Vision for Interoperable NLC

Comfortable occupants



Efficient facility operations



Market adoption and expansion



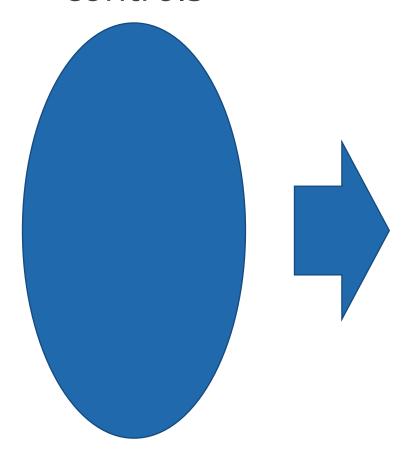
Saving more electricity

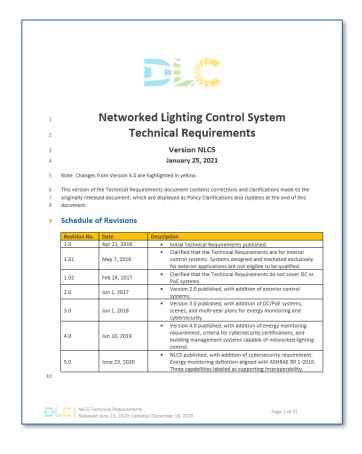




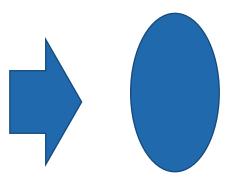


#### **All** lighting controls





## Networked **Lighting Controls** on the DLC List





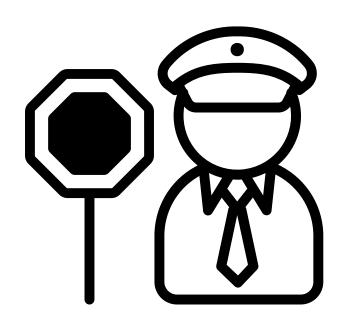


# **Each Capability is**

"Required"

or

"Reported"





# Networked Lighting Control REQUIRED Capabilities







- Networking of Luminaires and Devices
- Occupancy Sensing
- Cybersecurity
- Daylight Harvesting
- High-End Trim
- Zoning
- Individual Luminaire Addressability
- Continuous Dimming
- Energy Monitoring (except room-level)





# Networked Lighting Control REPORTED Capabilities





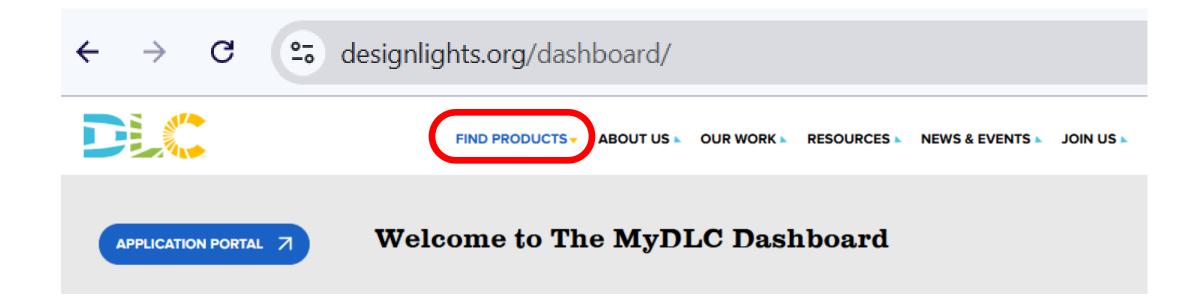


- Remote Diagnostics
- Plug Load Control
- Traffic Sensing
- Control Persistence
- User Interface
- Personal Control
- Emergency Lighting
- Color Changing/Tuning
- Scheduling

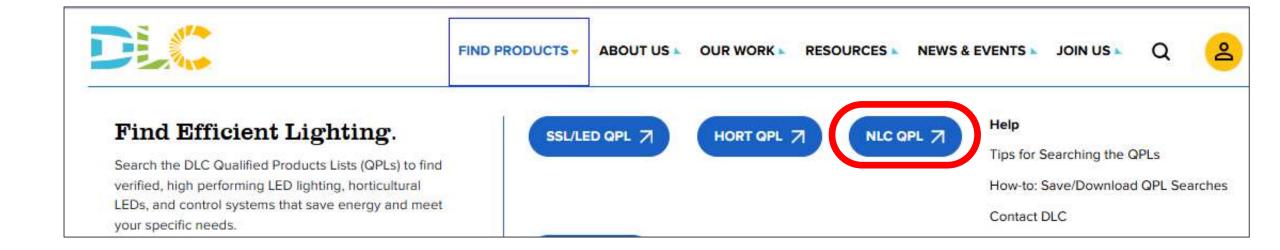
- External Systems Integration
- Luminaire Level Lighting Control (LLLC)
- Load Shedding/Demand Response
- Scene Control



## **Open the DLC List of Networked Lighting Controls**



## **Open the DLC List of Networked Lighting Controls**













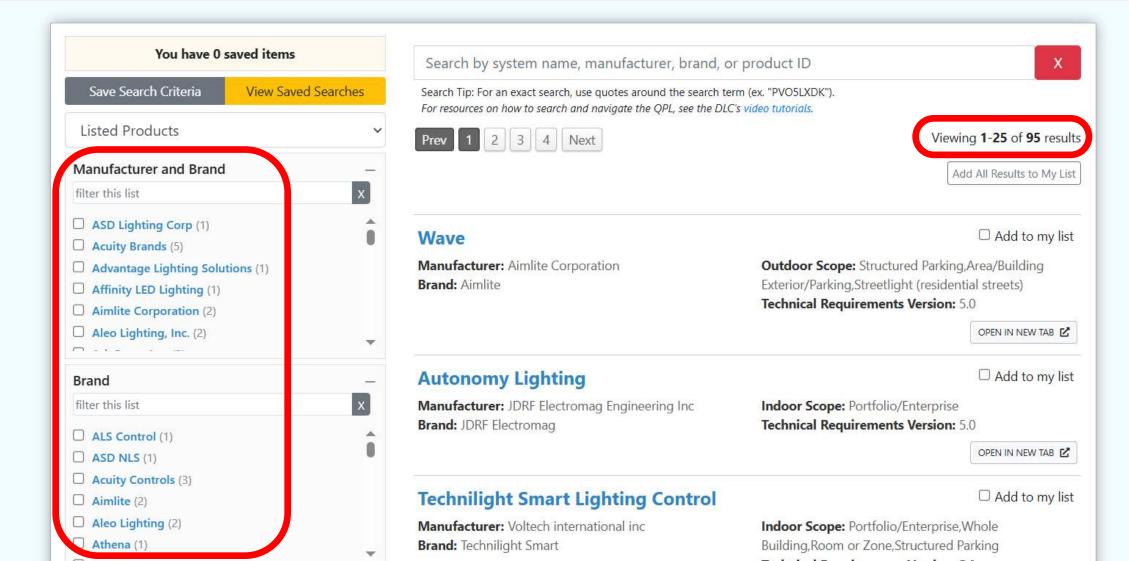




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Home / DLC Qualified Product Lists / Networked Lighting Controls











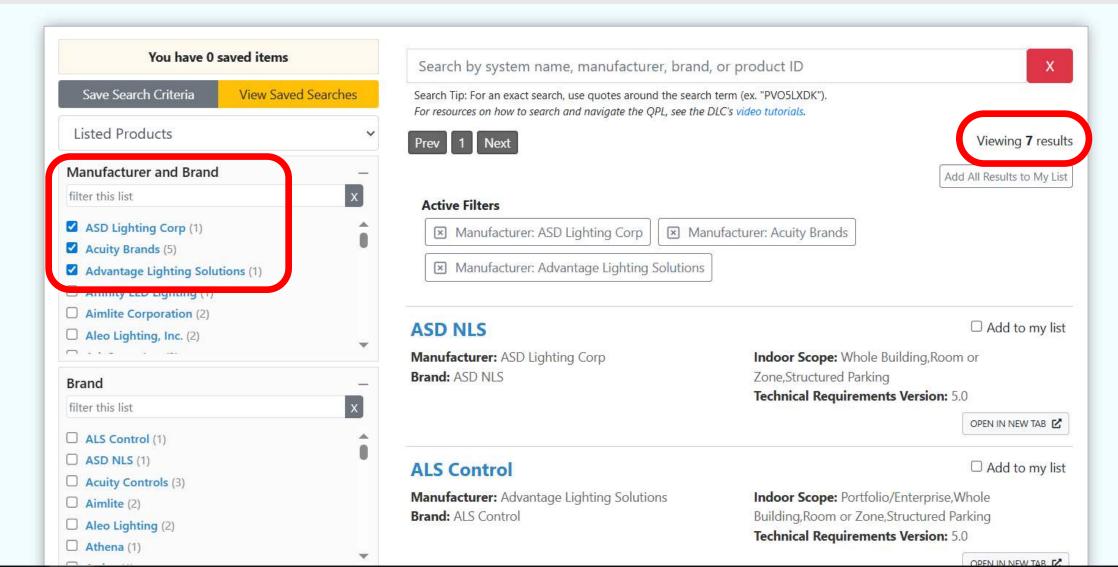
New Chrome av

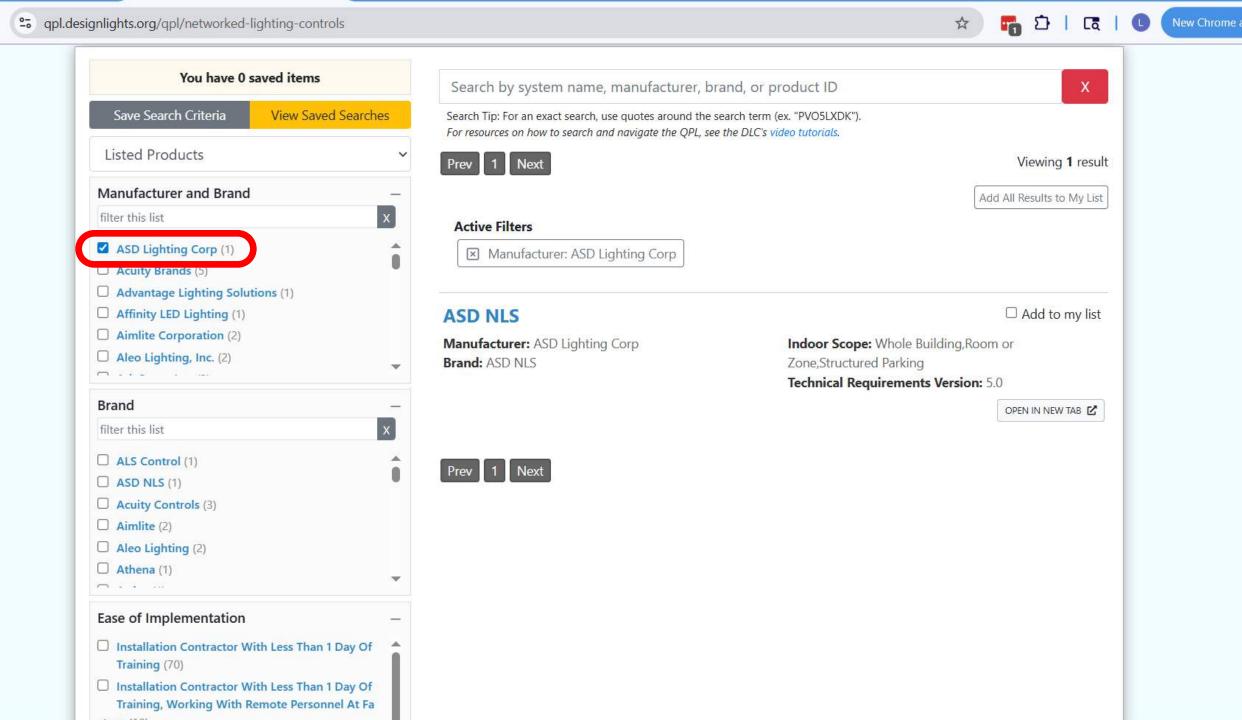


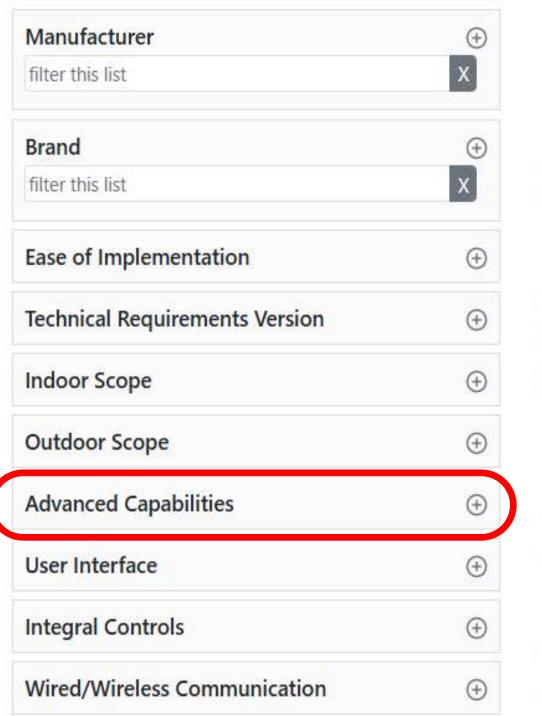
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Levin Nock Log Out

Home / DLC Qualified Product Lists / Networked Lighting Controls







#### IntrinsiX Xone

Manufacturer: IntrinsiX Lighting Brand: IntrinsiX Xone

Genio

Manufacturer: Standard Products Inc.

Brand: Stanpro

LumaLinx

Manufacturer: Jaykal LED Solutions, Inc.

Brand: LumaLinx

CONTROLLED

Manufacturer: RAB Design Lighting

**Technical Require** 

Outdoor Scope: S

Exterior/Parking,Str

**Technical Require** 

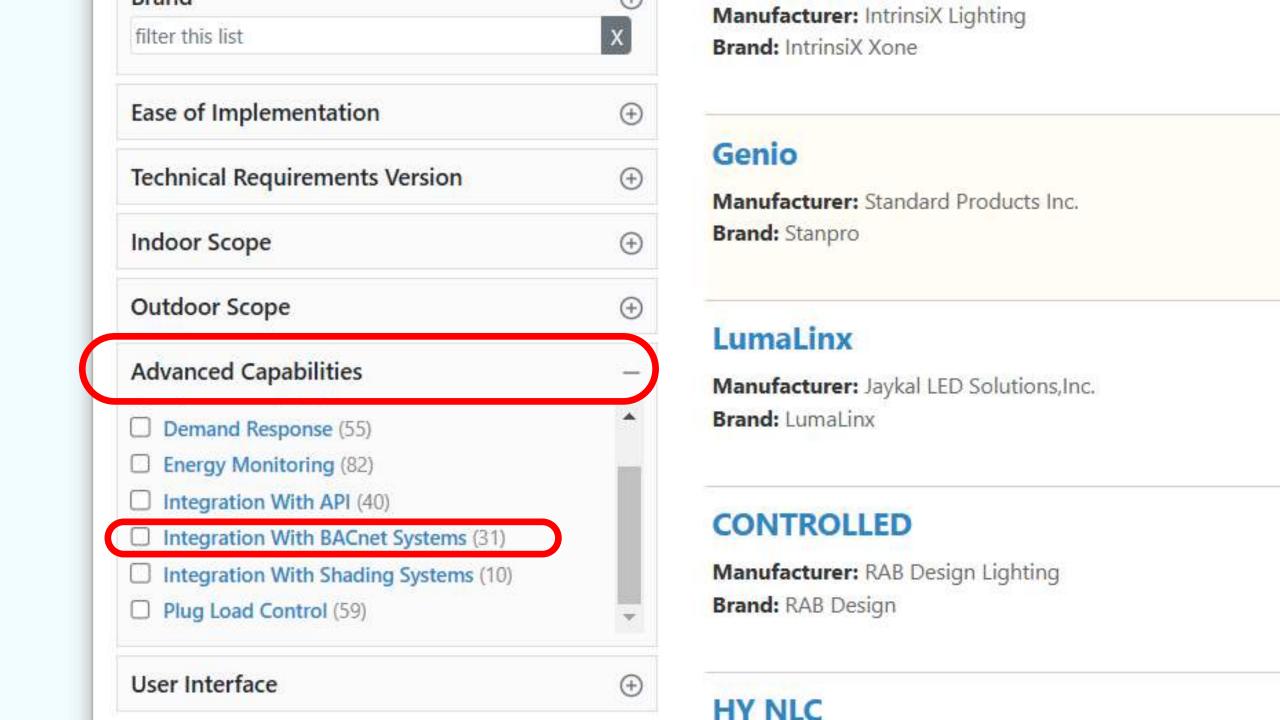
Outdoor Scope: S

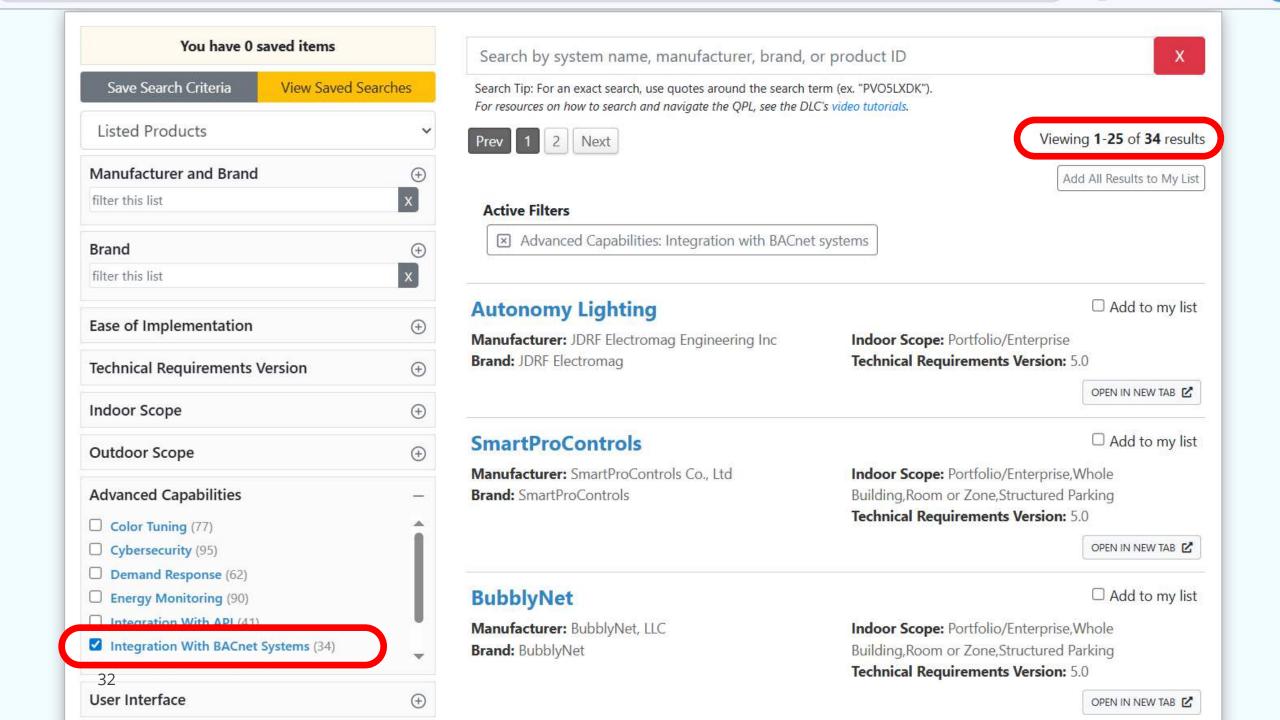
Exterior/Parking,Str

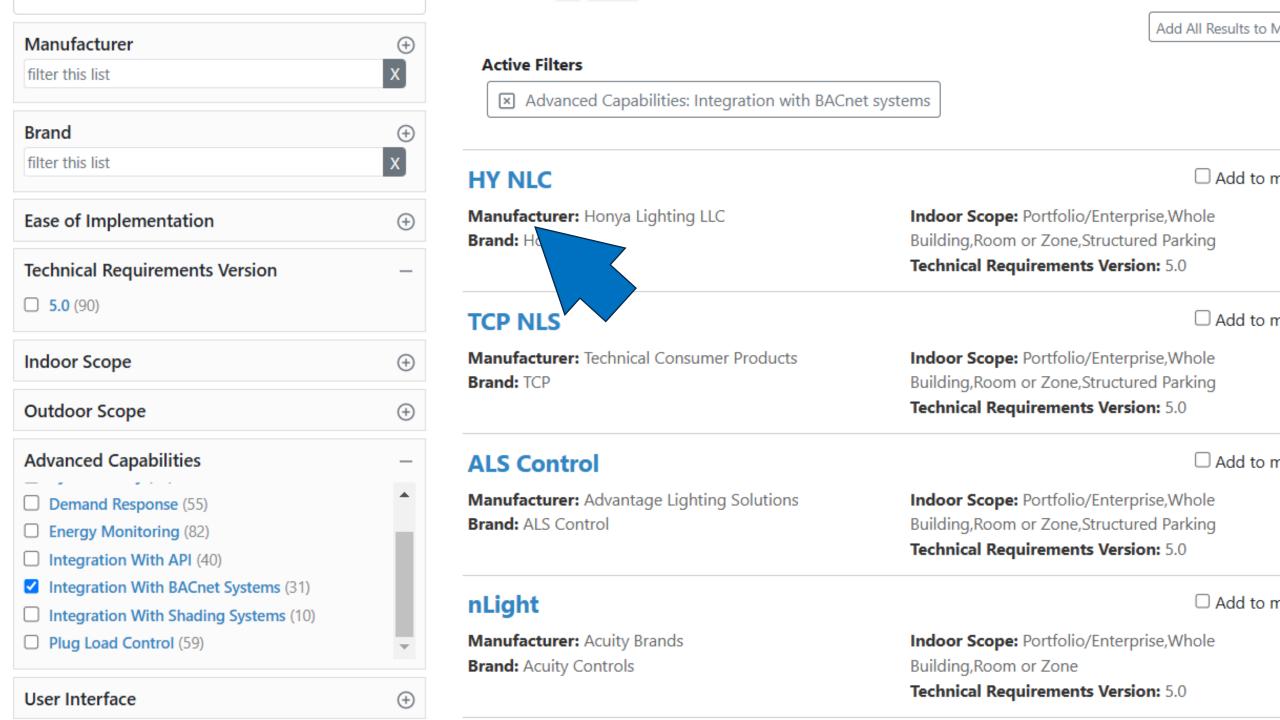
Indoor Scope: Por

Building, Room or 2 **Technical Require** 

Outdoor Scope: S









#### **HY NLC**

#### Animate bold red x's

Manufacturer: Honya Lighting LLC

Scope: Indoor

**Scale:** Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking

**Technical Requirements Version:** 5

PRODUCT OVERVIEW			
Manufacturer	Honya Lighting LLC		
Product Website	View Website		
QPL	Networked Lighting Controls		
Listing Status	Listed		
Date Qualified	2024-12-17		
Technical Support Phone	516-832-1016		
Standard Warranty Length	5		

SUMMARY	
✓ Networking	✓ Occupancy Sensing
★ Traffic Sensing	✓ Daylight Harvesting
✓ High-End Trim	✓ Zoning
✓ Individual Luminaire Addressability	✓ Continuous Dimming
✓ Control Persistence	✓ Scheduling
<ul> <li>Energy Monitoring</li> </ul>	★ Remote Diagnostics
✓ User Interface	✓ Luminaire Level Lighting Control (LLLC)
✓ Personal Control	✗ Load Shedding/Demand Response
✓ Plug Load Control	<ul> <li>External Systems Integration</li> </ul>
✓ Emergency Lighting	Cybersecurity
✓ Color Changing/Tuning	✓ Scene Control



#### HY NLC

Manufacturer: Honya Lighting LLC

Scope: Indoor

Scale: Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking

**Technical Requirements Version:** 5

PRODUCT OVERVIEW			
Manufacturer	Honya Lighting LLC		
Product Website	View Website		
QPL	Networked Lighting Controls		
Listing Status	Listed		
Date Qualified	2024-12-17		
Technical Support Phone	516-832-1016		
Standard Warranty Length	5		

SUMMARY			
✓ Networking	✓ Occupancy Sensing		
× Traffic Sensing	✓ Daylight Harvesting		
✓ High-End Trim	✓ Zoning		
✓ Individual Luminaire Addressability	✓ Continuous Dimming		
✓ Control Persistence	✓ Scheduling		
✓ Energy Monitoring	× Remote Diagnostics		
✓ User Interface	✓ Luminaire Level Lighting Control (LLLC)		
✓ Personal Control	× Load Shedding/Demand Response		
✓ Plug Load Control	✓ External Systems Integration		
✓ Emergency Lighting	✓ Cybersecurity		
✓ Color Changing/Tuning	✓ Scene Control		
NETWORK	VIEW DETAILS		
INTEROPERABILITY	VIEW DETAILS		
ENERGY SAVING STRATEGIES	VIEW DETAILS		
CONTROL	VIEW DETAILS		
ADDITIONAL CAPABILITIES	VIEW DETAILS		
START-UP AND CONFIGURATION	VIEW DETAILS		
VERSION HISTORY	VIEW DETAILS		

PRODUCT OVERVIEV	V	SUMMARY	
Manufacturer	Honya Lighting LLC	✓ Networking	✓ Occupancy Sensing
Product Website	View Website	× Traffic Sensing	✓ Daylight Harvesting
QPL	Networked Lighting Controls	<ul><li>✓ High-End Trim</li><li>✓ Individual Luminaire Addressability</li></ul>	<ul><li>✓ Zoning</li><li>✓ Continuous Dimming</li></ul>
Listing Status	Listed	✓ Control Persistence	✓ Scheduling
Date Qualified	2024-12-17	<ul><li>✓ Energy Monitoring</li><li>✓ User Interface</li></ul>	X Remote Diagnostics  ✓ Luminaire Level Lighting Control (LLLC)
Technical Support	516-832-1016	✓ Personal Control ✓ Plug Load Control	<ul> <li>X Load Shedding/Demand Response</li> <li>✓ External Systems Integration</li> </ul>
Standard Warranty Length	5	<ul><li>✓ Emergency Lighting</li><li>✓ Color Changing/Tuning</li></ul>	✓ Cybersecurity ✓ Scene Control
		NETWORK	VIEW DETAILS
		INTEROPERABILITY	VIEW DETAILS
		ENERGY SAVING STRATEGIES	VIEW DETAILS
		CONTROL	VIEW DETAILS
		ADDITIONAL CAPABILITIES	VIEW DETAILS
		START-UP AND CONFIGURATION	VIEW DETAILS
		VERSION HISTORY	VIEW DETAILS

#### INTEROPERABILITY

#### **Energy Monitoring** Has Energy Monitoring 🕕 Yes **Energy monitoring method** Wattage LUT without manual data entry Is optional hardware or Yes software needed? Duration that aggregated Will be stored on cloud forever energy data is available 🕕 Loads included in a data Light engine/lamp, Driver/ballast point of the reported power/energy consumption Data record .CSV and/or API .CSV

#### INTEROPERABILITY

**External Systems Integration** 

Has External systems integration ①

Yes

Communication Protocols
Supported

BACNet® /IP (ANSI SSPC 135)

Operational commands can be input via BMS ①

Yes

Response time for lighting scene change request via BMS 1

1second

Has API 🕕

Yes

INTEROPERABILITY	
Has External systems integration ①	Yes
Communication Protocols Supported	BACNet® /IP (ANSI SSPC 135), Contact closure, MODBUS® / RS-232, RS-485
System level data communicated via BMS	Lighting scene setting, Loadshed status, Manual override status
Zone level data communicated via BMS	Lighting scene setting, Loadshed status, Manual override status
Luminaire level data communicated via BMS	Light level, Occupancy status, Luminaire/power pack status
Operational commands can be input via BMS ①	Yes

PRODUCT OVERVIEV	V	SUMMARY		
Manufacturer	Honya Lighting LLC	✓ Networking	✓ Occupancy Sensing	
Product Website	View Website	× Traffic Sensing	✓ Daylight Harvesting	
		✓ High-End Trim	✓ Zoning	
QPL	Networked Lighting Controls	Individual Luminaire Addressability	✓ Continuous Dimming	
Listing Status	lists d	✓ Control Persistence	✓ Scheduling	
Listing Status	Listed	✓ Energy Monitoring	X Remote Diagnostics	
Date Qualified	2024-12-17	✓ User Interface	<ul> <li>Luminaire Level Lighting Control (LLLC)</li> </ul>	
		✓ Personal Control	★ Load Shedding/Demand Response	
Technical Support	516-832-1016	✓ Plug Load Control	<ul> <li>External Systems Integration</li> </ul>	
Phone		✓ Emergency Lighting	✓ Cybersecurity	
Standard Warranty Length	5	✓ Color Changing/Tuning	✓ Scene Control	
		NETWORK	VIEW DETAILS	
		INTEROPERABILITY	VIEW DETAILS	
		ENERGY SAVING STRATEGIES	VIEW DETAILS	
		CONTROL	VIEW DETAILS	
		ADDITIONAL CAPABILITIES	VIEW DETAILS	
		START-UP AND CONFIGURATION	VIEW DETAILS	
		VERSION HISTORY	VIEW DETAILS	

#### **ADDITIONAL CAPABILITIES**

#### Cybersecurity

**Has** Yes

Cybersecurity



**Cybersecurity** SOC2, ioXt

standard(s)

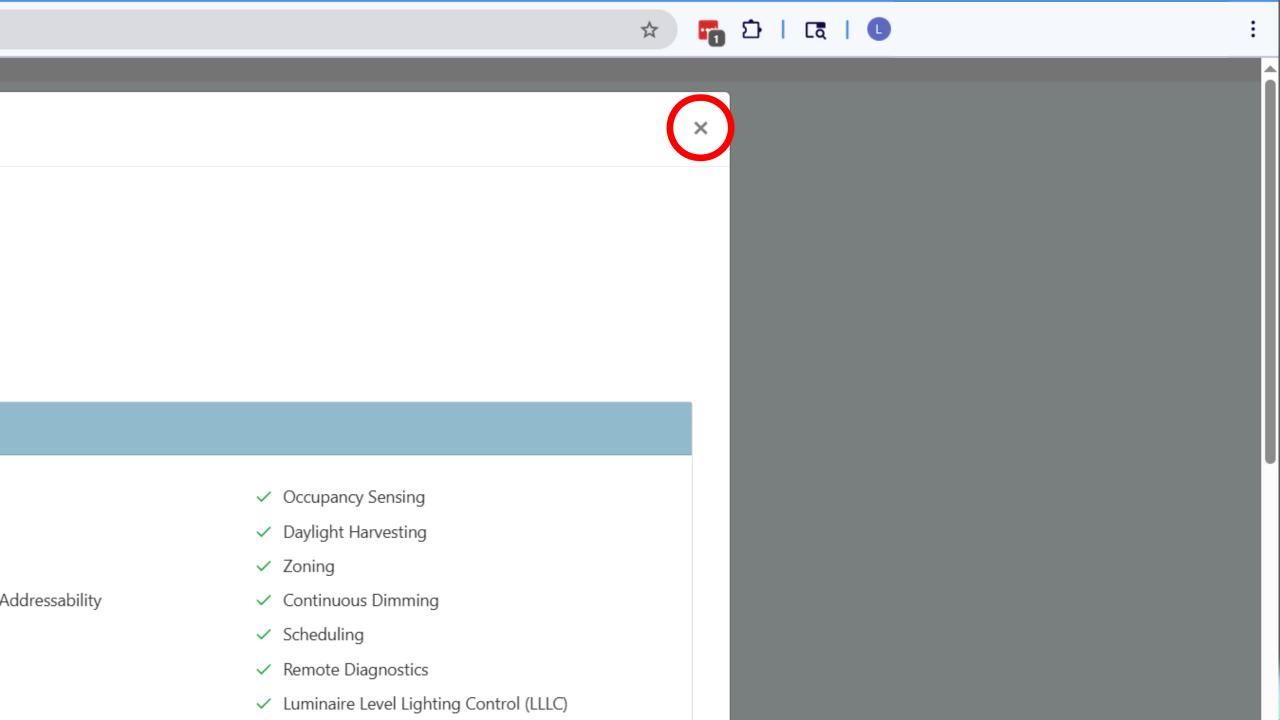
met

#### **Remote Diagnostics**

Has Remote Yes

Diagnostics 🕕

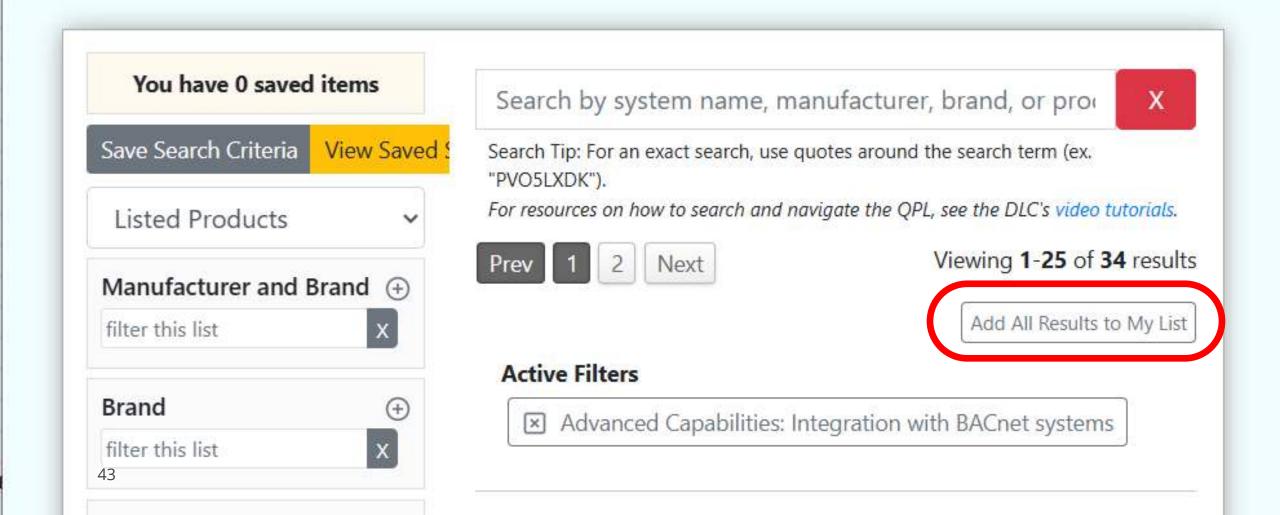
**Characteristics** Communication Issues, Status: online/offline devices, Device errors, Component failures







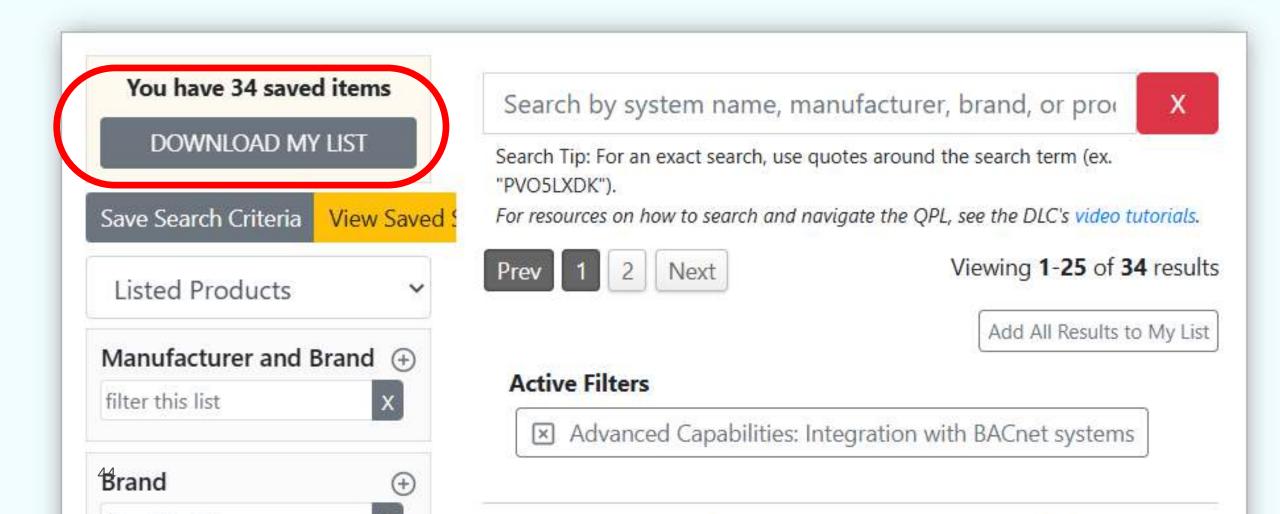
#### Home / DLC Qualified Product Lists / Networked Lighting Controls







#### Home / DLC Qualified Product Lists / Networked Lighting Controls



#### **SUMMARY**

- Networking
- × Traffic Sensing
- ✓ High-End Trim
- ✓ Individual Luminaire Addressability
- Control Persistence
- Energy Monitoring
- ✓ User Interface
- ✓ Personal Control
- ✓ Plug Load Control
- Emergency Lighting
- ✓ Color Changing/Tuning

- Occupancy Sensing
- ✓ Daylight Harvesting
- ✓ Zoning
- Continuous Dimming
- ✓ Scheduling
- × Remote Diagnostics
- ✓ Luminaire Level Lighting Control (LLLC)
- X Load Shedding/Demand Response
- External Systems Integration
- Cybersecurity
- ✓ Scene Control

_	D .	<u>'</u>	0	"
1	Manufacturer	System	Product Interior Scope	Product Exterior Scope
2	Acuity Brands	nLight Air	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
3	Acuity Brands	nLight Air		Structured Parking, Area/Building Exterior/Parki
4	Acuity Brands	SensorSwitch AIR	Room or Zone	
5	Acuity Brands	nLight	Portfolio/Enterprise, Whole Building, Room or Zone	
6	Acuity Brands	Atrius® Dimming	Portfolio/Enterprise, Whole Building, Room or Zone	
7	Advantage Lighting Solutions	ALS Control	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
8	Affinity LED Lighting	CLIQ Connected	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
9	Aimlite Corporation	Wave	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
10	Aimlite Corporation	Wave		Structured Parking, Area/Building Exterior/Parki
11	Aleo Lighting, Inc.	AleoBlue	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
12	Aleo Lighting, Inc.	SimplBlue	Room or Zone, Structured Parking	
13	Ark Smart Inc.	LumiEasy		Structured Parking, Area/Building Exterior/Parki
15	Ark Smart Inc.	LumiEasy	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
16	ASD Lighting Corp	ASD NLS	Whole Building, Room or Zone, Structured Parking	
17	Avi-on Labs, Inc.	Avi-on Lighting Control Platform	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
18	Barron Lighting Group Inc.	LiteLogic	Room or Zone, Structured Parking	
19	Barron Lighting Group Inc.	LiteLogic		Structured Parking, Area/Building Exterior/Parki
20	BubblyNet, LLC	BubblyNet	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
22	Casambi Technologies	Casambi	Portfolio/Enterprise, Whole Building, Room or Zone	
23	Casambi Technologies	Casambi		Structured Parking, Area/Building Exterior/Parki
24	Cooper Lighting Solutions (formerly Eaton)	WaveLinx CAT	Room or Zone	
25	Cooper Lighting Solutions (formerly Eaton)	WaveLinx Wireless Connected Lighting	Portfolio/Enterprise, Whole Building, Room or Zone	
26	Cooper Lighting Solutions (formerly Eaton)	WaveLinx Wireless Connected Lighting		Area/Building Exterior/Parking
27	Cooper Lighting Solutions (formerly Eaton)	WaveLinx Lite	Room or Zone	
28	Crestron Electronics	Crestron Zūm™	Portfolio/Enterprise, Whole Building, Room or Zone	
29	Current	EZ Connect	Room or Zone	
30	Current	NX Distributed Intelligence	Portfolio/Enterprise, Whole Building, Room or Zone, Structured Parking	
31	Current	NX Distributed Intelligence		Structured Parking, Area/Building Exterior/Parki
32	EarthTronics Inc.	EarthConnect	Room or Zone, Structured Parking	
33	Hangzhou LMenergysolution Lighting Co. LT	LMIC	Room or Zone	
Charge				
	46			

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D

	F	EO	EP	EQ
1	System	Cybersecurity standard(s) met	cybersecurity service 🕶	Compliance with CA SB-327 -
2	nLight Air	Socz, loxe		
3	nLight Air	SOC2, ioXt		
4	SensorSwitch AIR	SOC2		
5	nLight	SOC2, ioXt		
6	Atrius® Dimming	SOC2		
7	ALS Control	ioXt		
8	CLIQ Connected		UL MCV 1376	
9	Wave		UL MCV 1376	
10	Wave		UL MCV 1376	
11	AleoBlue	ioXt		
12	SimplBlue		UL MCV 1376	
13	LumiEasy		UL MCV 1376	
15	LumiEasy		UL MCV 1376	
16	ASD NLS	ISO 27,001, ISO 27,017, CSA STAR		
17	Avi-on Lighting Control Platform		UL MCV 1376	
18	LiteLogic		UL MCV 1376	
19	LiteLogic		UL MCV 1376	
20	BubblyNet	ioXt		
22	Casambi	ioXt		
23	Casambi	ioXt		
24	WaveLinx CAT	IEC 62443-4-1		
25	WaveLinx Wireless Connected Lighting	ANSI UL 2900-1		TRUE
26	WaveLinx Wireless Connected Lighting	ANSI UL 2900-1		TRUE
27	WaveLinx Lite	IEC 62443-4-1		
28	Crestron Zūm™		UL MCV 1376	











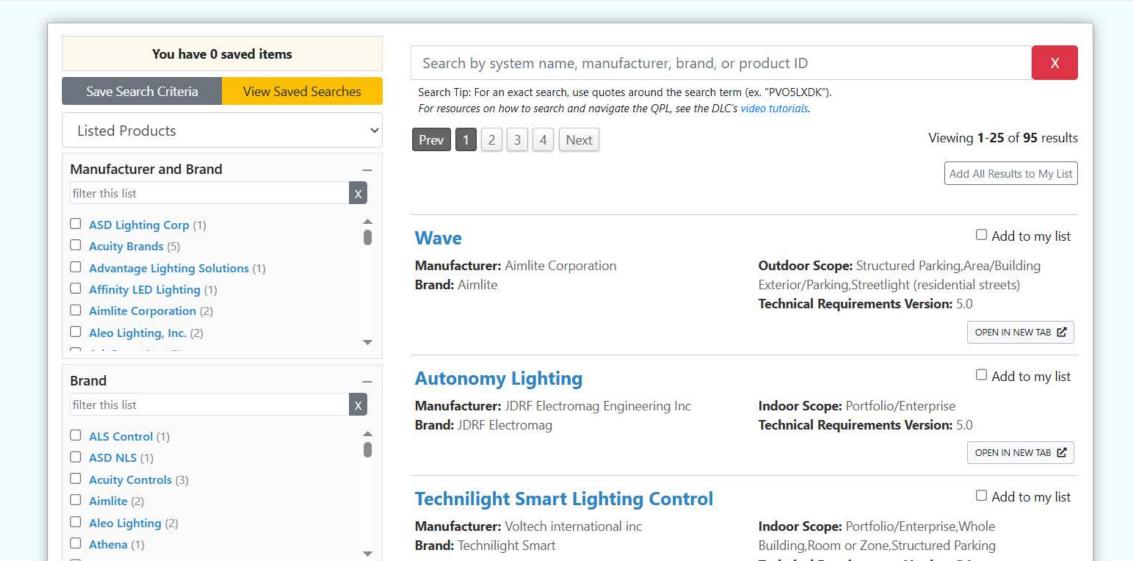




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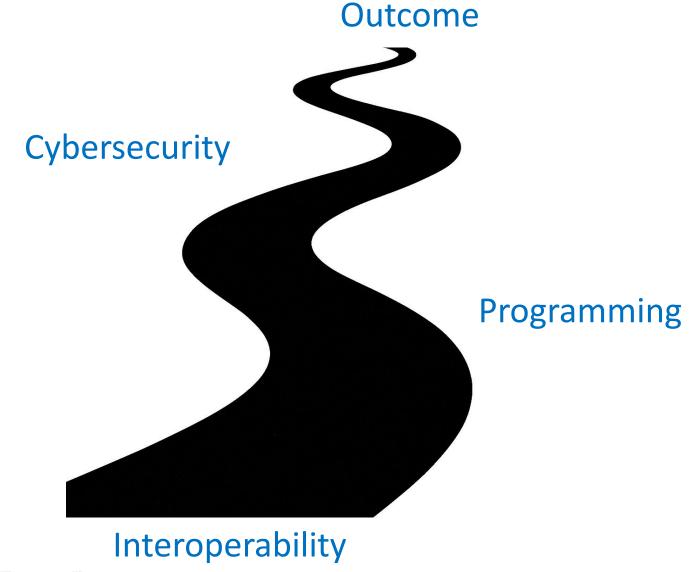
Home / DLC Qualified Product Lists / Networked Lighting Controls



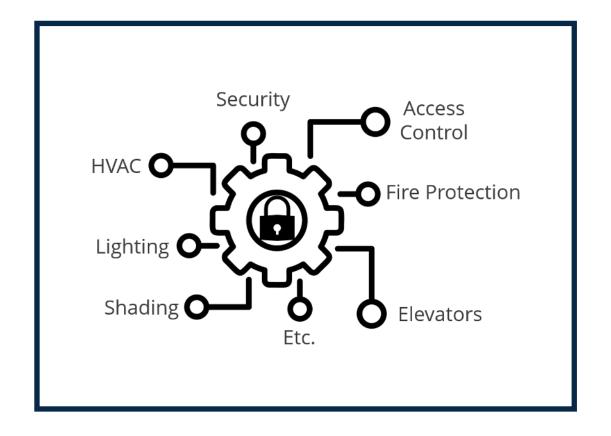




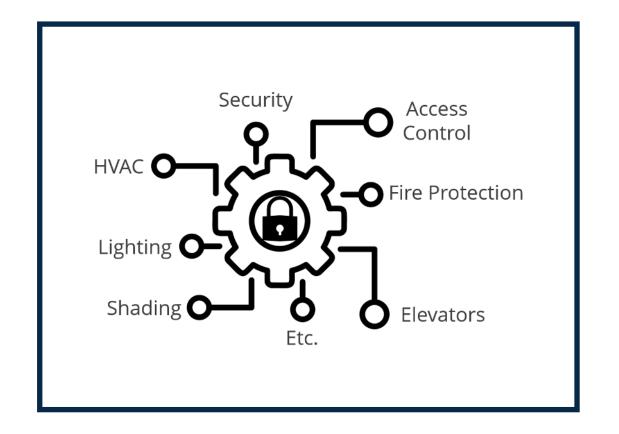
# Interoperability Launching Point for Owner Outcomes

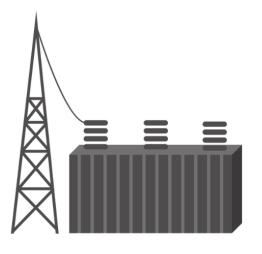


# **Different Control Systems within a Building**



#### Interoperability beyond a Building





# Demand Response OpenADR

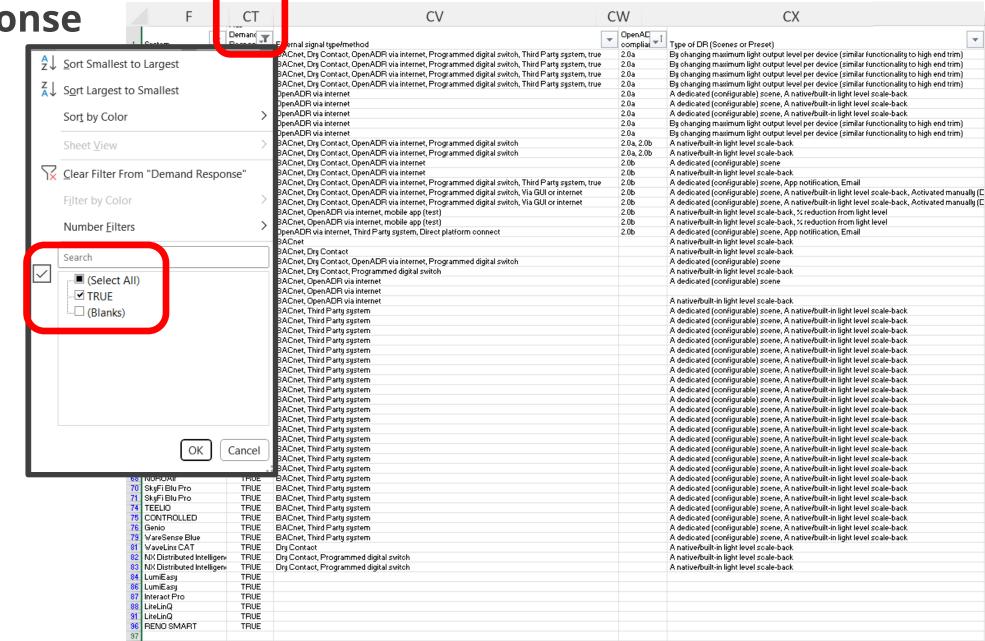


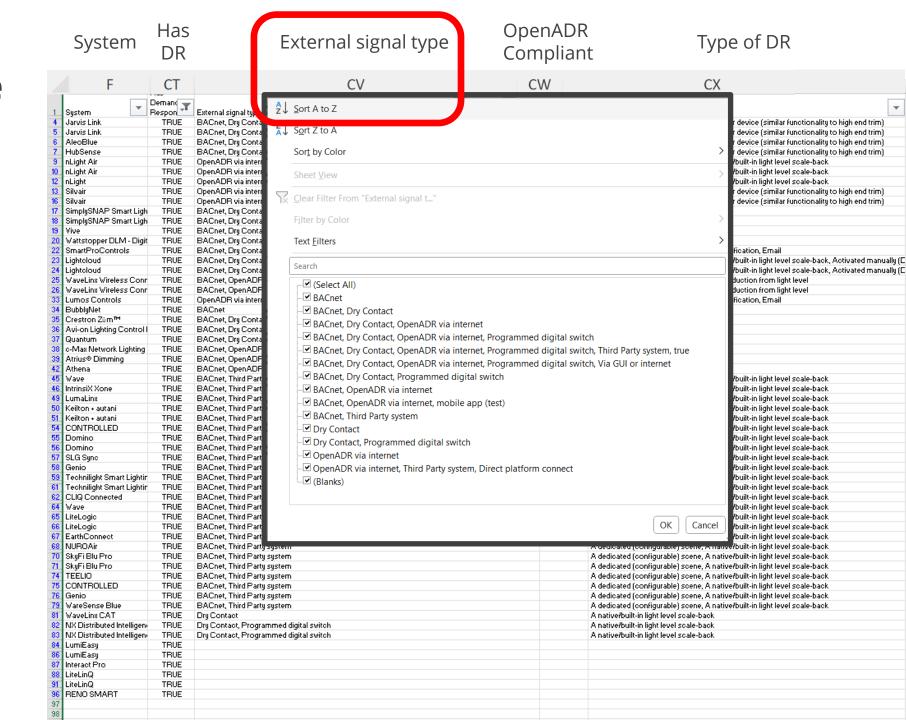


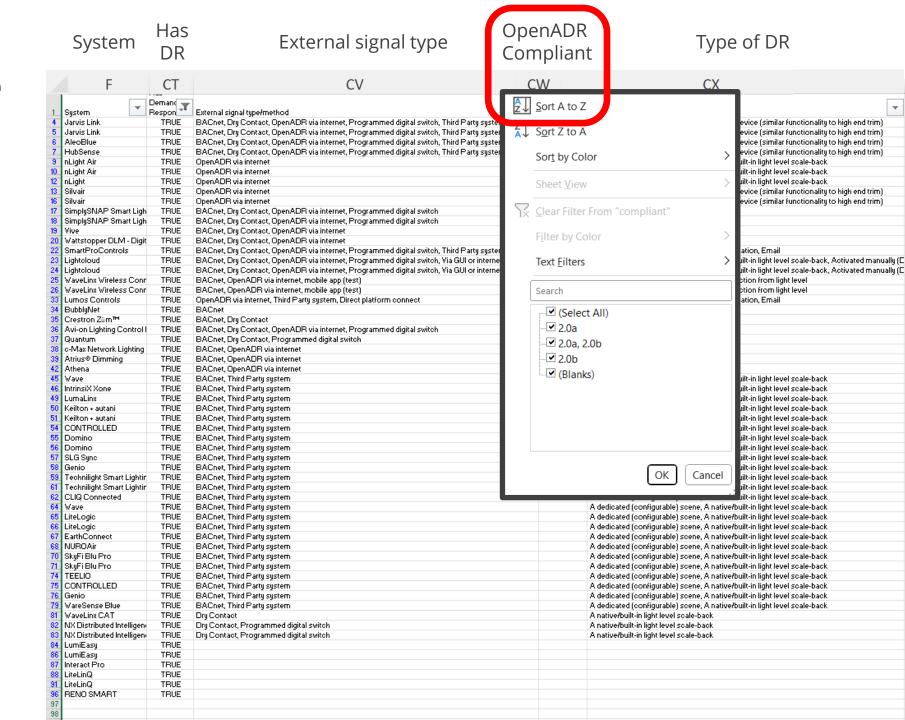
System Has DR External signal type

OpenADR Compliant

Type of DR







Has

System

DR Compliant CV CW CT CX OpenAD openAD Demand Respon External signal tupe/method System Tupe of DR (Scenes or Preset) 4 Jarvis Link BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true By changing maximum light output level per device (similar functionality to high end trim) Jarvis Link BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true Bu changing maximum light output level per device (similar functionality to high end trim) AleoBlue BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true 2.0a By changing maximum light output level per device (similar functionality to high end trim) HubSense BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true 2.0a By changing maximum light output level per device (similar functionality to high end trim) nLight Air TRUE OpenADR via internet 2.0a A dedicated (configurable) scene, A native/built-in light level scale-back nLight Air TRUE OpenADR via internet 2.0a A dedicated (configurable) scene, A native/built-in light level scale-back nLight TRUE OpenADR via internet 2.0a A dedicated (configurable) scene, A native/built-in light level scale-back TRUE OpenADR via internet Silvair 2.0a By changing maximum light output level per device (similar functionality to high end trim) TRUE Silvair OpenADR via internet 2.0a By changing maximum light output level per device (similar functionality to high end trim) SimplySNAP Smart Ligh BACnet, Dry Contact, OpenADR via internet, Programmed digital switch 2.0a, 2.0b A native/built-in light level scale-back SimplySNAP Smart Ligh A native/built-in light level scale-back BACnet, Dry Contact, OpenADR via internet, Programmed digital switch Wattstopper DLM - Digit A native/built-in light level scale-back TRUE BACnet, Dry Contact, OpenADR via internet 2.0b SmartProControls 5 8 1 BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true 2.0b A dedicated (configurable) scene, App notification, Email Lighteloud BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet 2.0b A dedicated (configurable) scene, A native/built-in light level scale-back, Activated manually (D TRUE BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet 2.0Ь Lighteloud A dedicated (configurable) scene, A native/built-in light level scale-back, Activated manually (D 2.0Ь WaveLinx Wireless Conr TRUE BACnet, OpenADR via internet, mobile app (test) A native/built-in light level scale-back, % reduction from light level WaveLinx Wireless Conn TRUE BACnet, OpenADR via internet, mobile app (test) 2.0b A native/built-in light level scale-back, % reduction from light level Lumos Controls TRUE OpenADR via internet, Third Party system, Direct platform connect 2.0b A dedicated (configurable) scene, App notification, Email TRUE BubblyNet BACnet A native/built-in light level scale-back Crestron Züm™ TRUE BACnet, Dru Contact A native/built-in light level scale-back Avi-on Lighting Control ( BACnet, Dry Contact, OpenADR via internet, Programmed digital switch A dedicated (configurable) scene BACnet, Dru Contact, Programmed digital switch Quantum A native/built-in light level scale-back A dedicated (configurable) scene c-Max Network Lighting TRUE BACnet, OpenADR via internet Atrius® Dimming TRUE BACnet, OpenADR via internet Athena TRUE BACnet, OpenADR via internet A native/built-in light level scale-back TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Wave IntrinsiX Xone TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back LumaLinx TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Keilton + autani TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Keilton + autani TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back CONTROLLED TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Domino TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Domino TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back TRUE SLG Sync BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back TRUE Genio BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Technilight Smart Lightin TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Technilight Smart Lightin TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back CLIQ Connected BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Wave BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back BACnet, Third Party system LiteLogic A dedicated (configurable) scene, A native/built-in light level scale-back LiteLogic TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back BACnet, Third Party system EarthConnect TRUE A dedicated (configurable) scene, A native/built-in light level scale-back NUROAir TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back SkuFi Blu Pro TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back SkuFi Blu Pro TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back TEELIO BACnet, Third Party system TRUE A dedicated (configurable) scene, A native/built-in light level scale-back BACnet, Third Party system CONTROLLED TRUE A dedicated (configurable) scene, A native/built-in light level scale-back TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back Genio WareSense Blue TRUE BACnet, Third Party system A dedicated (configurable) scene, A native/built-in light level scale-back WaveLinx CAT TRUE Dru Contact A native/built-in light level scale-back A native/built-in light level scale-back NX Distributed Intelligen-TRUE Dry Contact, Programmed digital switch NX Distributed Intelligen-Dry Contact, Programmed digital switch TRUE A native/built-in light level scale-back TRUE LumiEasy TRUE LumiEasy TRUE Interact Pro LiteLinQ TRUE LiteLinQ TRUE RENO SMART

External signal type

OpenADR

Type of DR

System Has DR

External signal type

OpenADR Compliant

Type of DR

F	CT	CV	CW	CX
Custo =	Demand Respon	Favor deisodon de sub-d	OpenAE compliar	T
System	mespon	External signal type/method	compilat	Type of DR (Scenes or Preset)
Jarvis Link	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end
Jarvis Link	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end
AleoBlue	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end
HubSense	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end
nLight Air	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
nLight Air	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
nLight	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
Silvair	TRUE	OpenADR via internet	2.0a	By changing maximum light output level per device (similar functionality to high end
SimplySNAP Smart Ligh	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch	2.0a, 2.0b	A native/built-in light level scale-back
SimplySNAP Smart Ligh	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch	2.0a, 2.0b	A native/built-in light level scale-back
Vive	TRUE	BACnet, Dry Contact, OpenADR via internet	2.0b	A dedicated (configurable) scene
Wattstopper DLM - Digit		BACnet, Dry Contact, OpenADR via internet	2.0b	A native/built-in light level scale-back
SmartProControls	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0b	A dedicated (configurable) scene, App notification, Email
Lighteloud	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet	2.0b	A dedicated (configurable) scene, A native/built-in light level scale-back, Activated (
Lightoloud	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet	2.0b	A dedicated (configurable) scene, A native/built-in light level scale-back, Activated
WaveLinx Wireless Conr		BACnet, OpenADR via internet, mobile app (test)	2.0b	A native/built-in light level scale-back, % reduction from light level
WaveLinx Wireless Conr WaveLinx Wireless Conr		BACnet, OpenADR via internet, mobile app (test)	2.0b	A native/built-in light level scale-back, % reduction from light level
Lumos Controls	TRUE	OpenADR via internet, Third Party system, Direct platform connect	2.0b	A dedicated (configurable) scene, App notification, Email
Crestron Züm™	TRUE	BACnet, Dry Contact		A native/built-in light level scale-back
Avi-on Lighting Control I		BACnet, Dry Contact, OpenADR via internet, Programmed digital switch		A dedicated (configurable) scene
Quantum	TRUE	BACnet, Dry Contact, Programmed digital switch		A native/built-in light level scale-back
c-Max Network Lighting	TRUE	BACnet, OpenADR via internet		A dedicated (configurable) scene
Atrius® Dimming	TRUE	BACnet, OpenADR via internet		
Athena	TRUE	BACnet, OpenADR via internet		A native/built-in light level scale-back
Wave	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
IntrinsiX Xone	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LumaLinx	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Keilton + autani	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Keilton + autani	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CONTROLLED	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Domino	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Domino	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SLG Sync	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Genio	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Technilight Smart Lightir		BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Technilight Smart Lightir		BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CLIQ Connected	TRUE	BAChet, Third Party system		A dedicated (configurable) scene, A nativerbuilt-in light level scale-back  A dedicated (configurable) scene, A native/built-in light level scale-back
Wave	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LiteLogic	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LiteLogic	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
EarthConnect	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
NUROAir	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SkyFi Blu Pro	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SkyFi Blu Pro	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
TEELIO	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CONTROLLED	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Genio	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
WareSense Blue	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
WaveLinx CAT	TRUE	Dry Contact		A native/built-in light level scale-back
NX Distributed Intelligen		Dry Contact, Programmed digital switch		A native/built-in light level scale-back
NX Distributed Intelligen:		Dry Contact, Programmed digital switch		A native/built-in light level scale-back
Nazioscribacea incelligeni LumiEasy	TRUE	ery consess, rifegrammed alguarement		Track Council light rever poderbook
LumiEasy	TRUE			
LumiEasy Interact Pro	TRUE			
LiteLinQ	TRUE			
LiteLinQ	TRUE			
RENO SMART	TRUE			



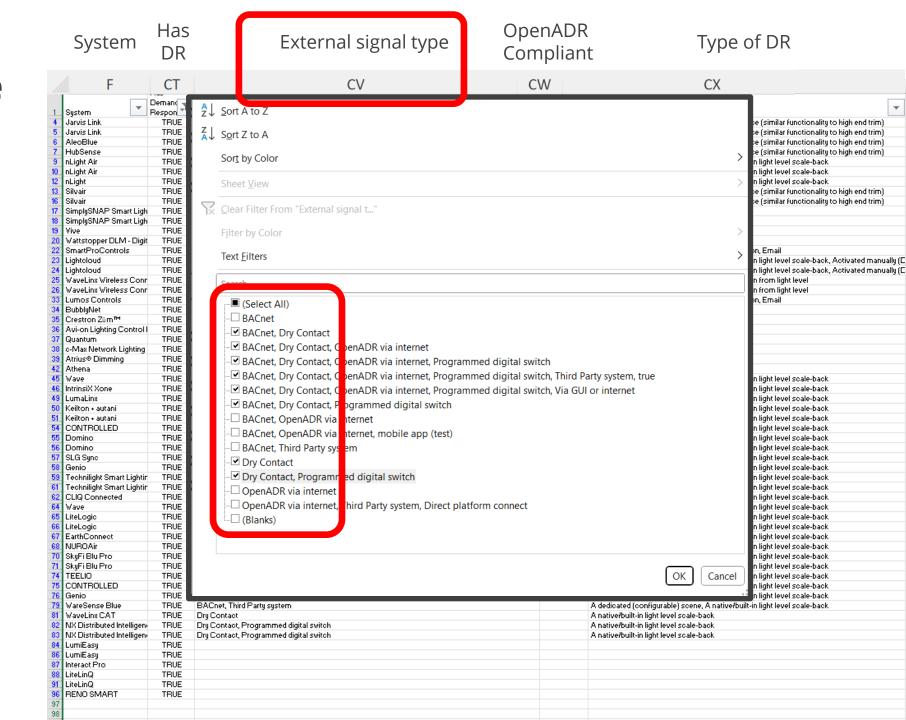
System Has DR

External signal type

OpenADR Compliant

Type of DR

F	CT	CV	CW	CX
	Demand T	·- · · · · · · · · · · · · · · · · ·	OpenAL	
ogsteini	iespoii	External signal type/method	complia	Type of DR (Scenes or Preset)
Jarvis Link	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end trin
Jarvis Link	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end trin
AleoBlue	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end trin
HubSense	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0a	By changing maximum light output level per device (similar functionality to high end trin
nLight Air	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
nLight Air	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
nLight	TRUE	OpenADR via internet	2.0a	A dedicated (configurable) scene, A native/built-in light level scale-back
Silvair	TRUE	OpenADR via internet	2.0a	By changing maximum light output level per device (similar functionality to high end trin
Silvair	TRUE	OpenADR via internet	2.0a	By changing maximum light output level per device (similar functionality to high end trin
SimplySNAP Smart Ligh	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch	2.0a, 2.0b	A native/built-in light level scale-back
SimplySNAP Smart Ligh	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch	2.0a, 2.0b	A native/built-in light level scale-back
Vive	TRUE	BACnet, Dry Contact, OpenADR via internet	2.0b	A dedicated (configurable) scene
Wattstopper DLM - Digit	TRUE	BACnet, Dry Contact, OpenADR via internet	2.0b	A native/built-in light level scale-back
SmartProControls	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true	2.0b	A dedicated (configurable) scene, App notification, Email
Lighteloud	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet	2.0b	A dedicated (configurable) scene, A native/built-in light level scale-back, Activated ma
Lightcloud	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet	2.0b	A dedicated (configurable) scene, A native/built-in light level scale-back, Activated ma
WaveLinx Wireless Conn	TRUE	BACnet, OpenADR via internet, mobile app (test)	2.0b	A native/built-in light level scale-back, % reduction from light level
WaveLinx Wireless Conn	TRUE	BACnet, OpenADR via internet, mobile app (test)	2.0b	A native/built-in light level scale-back, % reduction from light level
WaveLilla Wileless Colli			2.00	
BubblyNet	TRUE	BACnet	2.00	A pating built is light level and a back
Crestron Züm™	TRUE			A native/built-in light level scale-back
		BACnet, Dry Contact		A native/built-in light level scale-back
Avi-on Lighting Control [	TRUE	BACnet, Dry Contact, OpenADR via internet, Programmed digital switch		A dedicated (configurable) scene
Quantum	TRUE	BACnet, Dry Contact, Programmed digital switch		A native/built-in light level scale-back
c-Max Network Lighting	TRUE	BACnet, OpenADR via internet		A dedicated (configurable) scene
Atrius© Dimming	TRUE	BACnet, OpenADR via internet		
Athena	TRUE	BACnet, OpenADR via internet		A native/built-in light level scale-back
Wave	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
IntrinsiX Xone	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LumaLinx	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Keilton + autani	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Keilton + autani	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CONTROLLED	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Domino	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Domino	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SLG Sunc	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Genio	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Technilight Smart Lightir	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Technilight Smart Lightin	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CLIQ Connected	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back  A dedicated (configurable) scene, A native/built-in light level scale-back
Wave	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LiteLogic	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
LiteLogic	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
EarthConnect	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
NUROAir	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SkyFi Blu Pro	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
SkyFi Blu Pro	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
TEELIO	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
CONTROLLED	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Genio	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
WareSense Blue	TRUE	BACnet, Third Party system		A dedicated (configurable) scene, A native/built-in light level scale-back
Wavecink CA1	THUE	pury Contact		A fractiveroulic-in light reversoale-back
NX Distributed Intelligen	TRUE	Dry Contact, Programmed digital switch		A native/built-in light level scale-back
NX Distributed Intelligen	TRUE	Dry Contact, Programmed digital switch		A native/built-in light level scale-back
LumiEasy	TRUE			-
LumiEasy	TRUE			
Interact Pro	TRUE			
LiteLinQ	TRUE			
LiteLin@	TRUE			



System	Has DR	External signal type	OpenADI Compliar	
F	CT	CV	CW	CX
4 Jarvis Link 5 Jarvis Link 6 AleoBlue 7 HubSense 17 SimplySNAP Smart 18 SimplySNAP Smart 19 Vive 20 Wattstopper DLM - [ 22 SmartProControls 23 Lightcloud 24 Lightcloud 35 Crestron Zūm™ 36 Avi-on Lighting Con 37 Quantum 81 WaveLinx CAT	Demai TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE	External signal type/method BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true BACnet, Dry Contact, OpenADR via internet, Programmed digital switch BACnet, Dry Contact, OpenADR via internet BACnet, Dry Contact, OpenADR via internet BACnet, Dry Contact, OpenADR via internet BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Third Party system, true BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet BACnet, Dry Contact, OpenADR via internet, Programmed digital switch, Via GUI or internet BACnet, Dry Contact, OpenADR via internet, Programmed digital switch BACnet, Dry Contact, OpenADR via internet, Programmed digital switch BACnet, Dry Contact, OpenADR via internet, Programmed digital switch BACnet, Dry Contact, OpenADR via internet, Programmed digital switch Dry Contact, OpenADR via internet, Programmed digital switch		Type of DR (Scenes or Preset)  By changing maximum light output level per device (similar functional By changing maximum light output level per device (similar functional By changing maximum light output level per device (similar functional By changing maximum light output level per device (similar functional A native/built-in light level scale-back A native/built-in light level scale-back A dedicated (configurable) scene A native/built-in light level scale-back A dedicated (configurable) scene, App notification, Email A dedicated (configurable) scene, A native/built-in light level scale-back A dedicated (configurable) scene, A native/built-in light level scale-back A dedicated (configurable) scene A native/built-in light level scale-back A dedicated (configurable) scene A native/built-in light level scale-back A native/built-in light level scale-back A native/built-in light level scale-back
82 NX Distributed Intell 83 NX Distributed Intell 97		Dry Contact, Programmed digital switch Dry Contact, Programmed digital switch		A native/built-in light level scale-back A native/built-in light level scale-back



#### **Case Studies**

4	D	F	L	
1	Manufacturer 🖵	System	Case Studies	Ţ
5	Acuity Brands	nLight	https://insights.acuitybrands.com/docs-case-studies/chicago-school-district-59-lights-up-its-learning-environment-with-led-luminaires	
6	Acuity Brands	Atrius® Dimming	https://www.ledsmagazine.com/leds-ssl-design/networks-controls/article/16699076/target-finally-confirms-that-acuity-provides-the-iot-lighting	
11	Aleo Lighting, Inc.	AleoBlue	https://www.aleolighting.com/wp-content/uploads/CS_LACountyRegistrar-Rev02-08-2023-1.pdf	
12	Aleo Lighting, Inc.	SimplBlue	https://www.aleolighting.com/resources/case-studies/	
16	ASD Lighting Corp	ASD NLS	https://asd-lighting.com/products/led-ufo-high-bay-with-q-base-series-uhb3/	
20	BubblyNet, LLC	BubblyNet	https://bubblynet.com/case-studies	
22	Casambi Technologies	Casambi	https://casambi.com/projects/	
23	Casambi Technologies	Casambi	https://casambi.com/projects/	
30	Current	NX Distributed Intelligence	https://www.currentlighting.com/nx-lighting-controls	
31	Current	NX Distributed Intelligence	https://www.currentlighting.com/nx-lighting-controls	
39	Jarvis Lighting	Jarvis Link	https://silvair.com/media/filer_public/4c/08/4c08ca25-f1dc-4f2d-8ca2-c7df92cc7a53/retrofitting_mcwong_warehouse_in_sacramento_ca.pdf	
40	Jarvis Lighting	Jarvis Link	https://silvair-media.s3.amazonaws.com/media/filer_public/c8/cf/c8cfa7fb-278c-450b-89c6-6c5137ca4fc4/25_02_silvair_emc_casestudy.pdf	
43	Keystone Technologies	SmartLoop	https://keystonetech.com/wp-content/uploads/2022/05/Keystone-Lights-Up-New-Warehouse-for-DAS-Case-Study.pdf	
45	Linmore LED	UltraLink	https://linmoreled.com/case-study/lodi-toyota/	
46	Linmore LED	UltraLink	https://linmoreled.com/case-study/rexnord-manufacturing-plant/	
48	Litetrace	Keilton + autani	https://autani.com/resources/#case-studies	
50	Lutron Electronics Co Inc	Athena	https://assets.lutron.com/a/documents/3686092_Juan_Soriano_Museum_case_study_English.pdf	
51	Lutron Electronics Co Inc	Vive	http://www.lutron.com/en-US/Pages/CaseStudiesSearch.aspx	
52	Lutron Electronics Co Inc	Quantum	http://www.lutron.com/en-US/Pages/CaseStudiesSearch.aspx	
58	MaxLite Inc.	c-Max Network Lighting Controls	https://www.maxlite.com/pub/media/resources/CaseStudies/NorthwestOfficeBuilding_CaseStudy.pdf	
59	mwConnect	TruBlu	https://mwconnect.us/resources/case-studies/	
60	mwConnect	TruBlu	https://mwconnect.us/resources/case-studies/	
66	RAB Lighting	Lightcloud	https://www.rablighting.com/lightcloud-resources/case-studies	
67	RAB Lighting	Lightcloud	https://www.rablighting.com/lightcloud-resources/case-studies	
73	Signify (formerly Philips Lighting)	Interact City	https://www.interact-lighting.com/en-us/customer-stories#page=1&filters=Possibility%2FCity%2C	
77	Silvair	Silvair	https://silvair.com/blog/largest-bluetooth-mesh-lighting-control-installation-world/	
		Silvair	https://silvair.com/blog/largest-bluetooth-mesh-lighting-control-installation-world/	
84		SimplySNAP Smart Lighting Solution	https://www.synapsewireless.com/innovation/outcomes/case-studies	
85	Synapse Wireless	SimplySNAP Smart Lighting Solution	https://www.synapsewireless.com/innovation/outcomes/case-studies	
88	toggled	toggled iQ	https://toggled.com/resources/case-studies/	
94	Wattstopper / Legrand	Wattstopper DLM - Digital Lighting Ma	https://www.legrand.us/search/?text=case+study	
	WiSilica	Lumos Controls	https://marketing.lumoscontrols.com/hubfs/EBARA-Smart%20warehouse%20case%20study.pdf	
97				



designlights.org/lighting-hvac-integration/



Systems



# Poll: Have you encountered owner needs or requirements for functional outcomes that drive interoperability?

- 1. Frequently
- 2. Sometimes
- 3. Rarely
- 4. Not yet
- 5. Not sure



# **Interoperability**

Make friends and Play well with others





# <u>Interoperability</u>

Make friends and Play well with others

<u>Cybersecurity</u>
Don't talk to strangers!

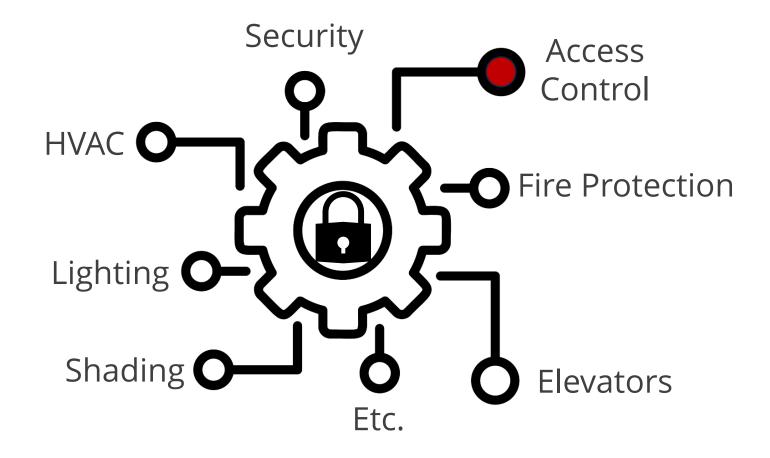






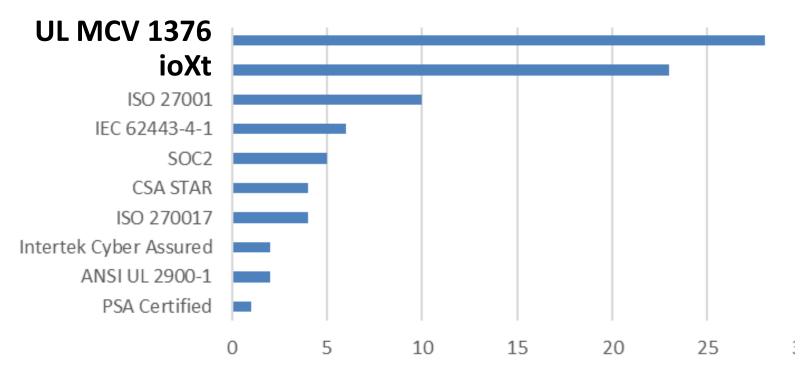


# **Cybersecurity the Foundation for Trust**





#### **Certifications of Systems on the NLC QPL**





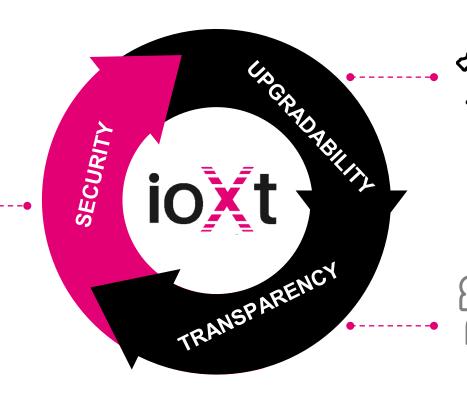
**Number of certified systems** 

# ioXt Security Pledge



#### **SECURITY**

- No Universal Passwords
- Secured Interfaces
- Proven Cryptography
- Security by Default



#### **UPGRADABILITY**

- Automatic Security
  Updates
- Verified Software

#### **TRANSPARENCY**

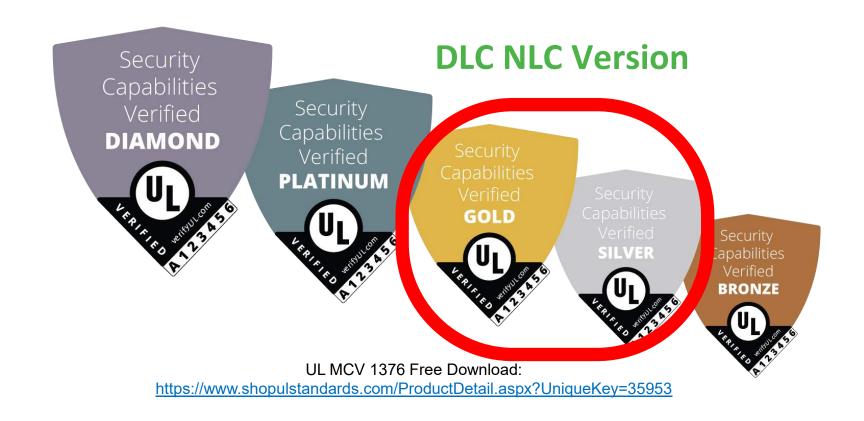
- Security Expiration Date
- Vulnerability Reporting Program



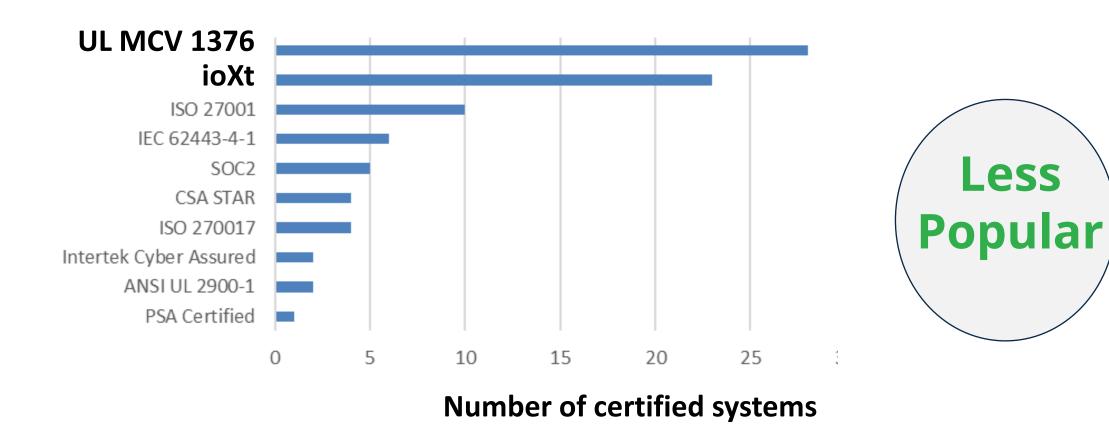
## **UL MCV 1376**



## **UL MCV 1376**



## Certifications of Systems on the NLC QPL





# Why so many certifications?







## **ANSI/ISA/IEC 62443**



www.ISA.org



www.IEC.ch



www.ANSI.org



## **For More Details**





#### Cybersecurity Webinar

Levin Nock, PhD Senior Technical Manager

2021.07.20



https://www.designlights.org/news-events/events/webinarwhats-next-for-cybersecurity-at-the-dlc/



### NLC5 Cybersecurity Overview

#### Background

Cybersecurity is the practice of defending networked systems and data from malicious attacks. Cybersecurity for networked lighting controls (NLCs) is of fundamental importance to NLC market adoption. Hacking of an NLC system could easily become a headline and cause large numbers of potential users to question or delay their adoption of the technology. The lost energy savings from canceled or delayed NLC deployment has the potential to be significant.

Developing effective requirements for system security is complex. Effective security includes both the security of the equipment/hardware installed, and the security policies and processes that must be undertaken by a customer to configure and maintain a secure network. Manufacturers and specifiers should choose one or more security standards or services that are appropriate, based on a risk assessment of each situation.

The DLC is not a security standards body and does not develop security standards. Through research and outreach, the DLC has identified several cybersecurity standards and services that satisfy the cybersecurity criteria in the NLC5 Technical Requirements. To help manufacturers and other users find an appropriate standard and/or service for their networked lighting control system, this resource provides additional information on each standard and service and summarizes their application. To pursue any of the services and standards listed below, contact the provider for more details.



Page 1 of 8

https://www.designlights.org/dlc -report/nlc5-cybersecurityoverview/





## **Cybersecurity - Cyber Hygiene**

- Develop a strong password
- Change from defaults
- Don't share credentials with others
- Enable Logs
- Start Audits
- Set Goals
- Track progress
- Celebrate wins













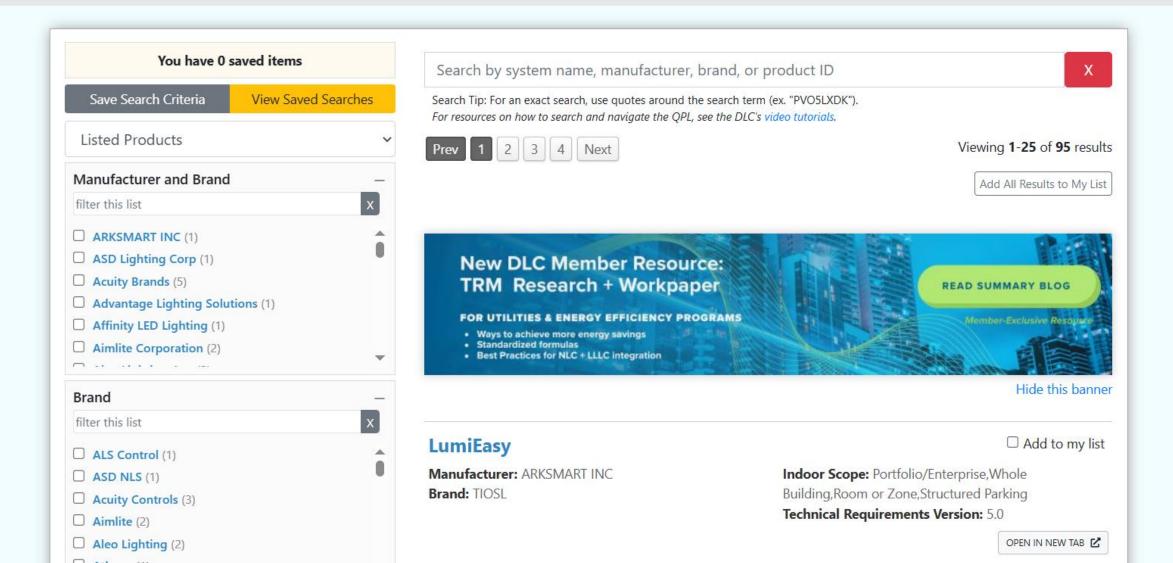


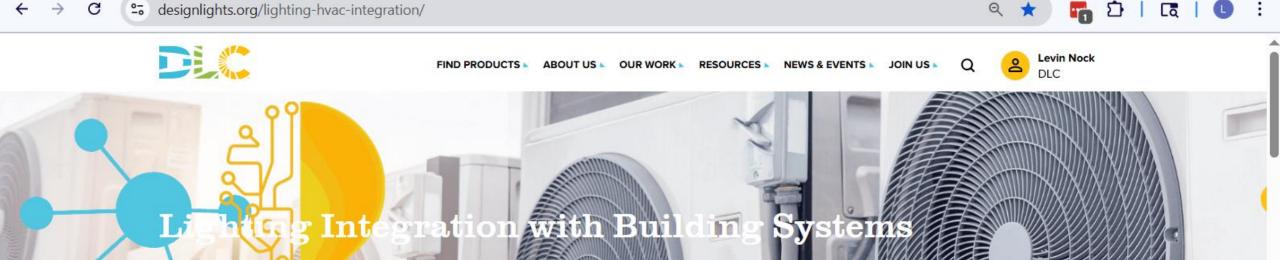
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2



Home / DLC Qualified Product Lists / Networked Lighting Controls





Home / Connected Lighting and HVAC Integration

#### Infographic

Toolkit

Introduction to NLC-HVAC Integration Video

AHR Expo 2025

Additional Resources

CONNECTED LIGHTING AND HVAC INTEGRATION

### Connected Lighting and HVAC Integration

Looking for more energy savings? Integrating HVAC with lighting controls is the next level up for smart buildings. How does it work? Take a look at our infographic below.

If you are curious about saving energy in commercial buildings, download our free toolkit about HVAC and networked lighting control integration.

DOWNLOAD NLC-HVAC INTEGRATION TOOLKIT

# **Cybersecurity Resources**





#### Cybersecurity Webinar

Levin Nock, PhD Senior Technical Manager

2021.07.20



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### DLC NETWORKED LIGHTING CONTROLS RESOURCES NLC5 Cybersecurity Overview

#### Background

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# Poll: Will this webinar help you use the NLC QPL any better?

- 1. Yes, a lot
- 2. Yes, a little
- 3. Not sure
- 4. No
- 5. NA, I don't use it





## **URLs** for chat

- Slide 25 Homepage: designlights.org
- Slide 67 Toolkit: designlights.org/lighting-hvac-integration/

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- Slide 82
- Cybersecurity webinar: <a href="https://www.designlights.org/news-events/events/webinar-whats-next-for-cybersecurity-at-the-dlc/">https://www.designlights.org/news-events/events/webinar-whats-next-for-cybersecurity-at-the-dlc/</a>
- Cybersecurity overview: <a href="https://www.designlights.org/dlc-report/nlc5-cybersecurity-overview/">https://www.designlights.org/dlc-report/nlc5-cybersecurity-overview/</a>

