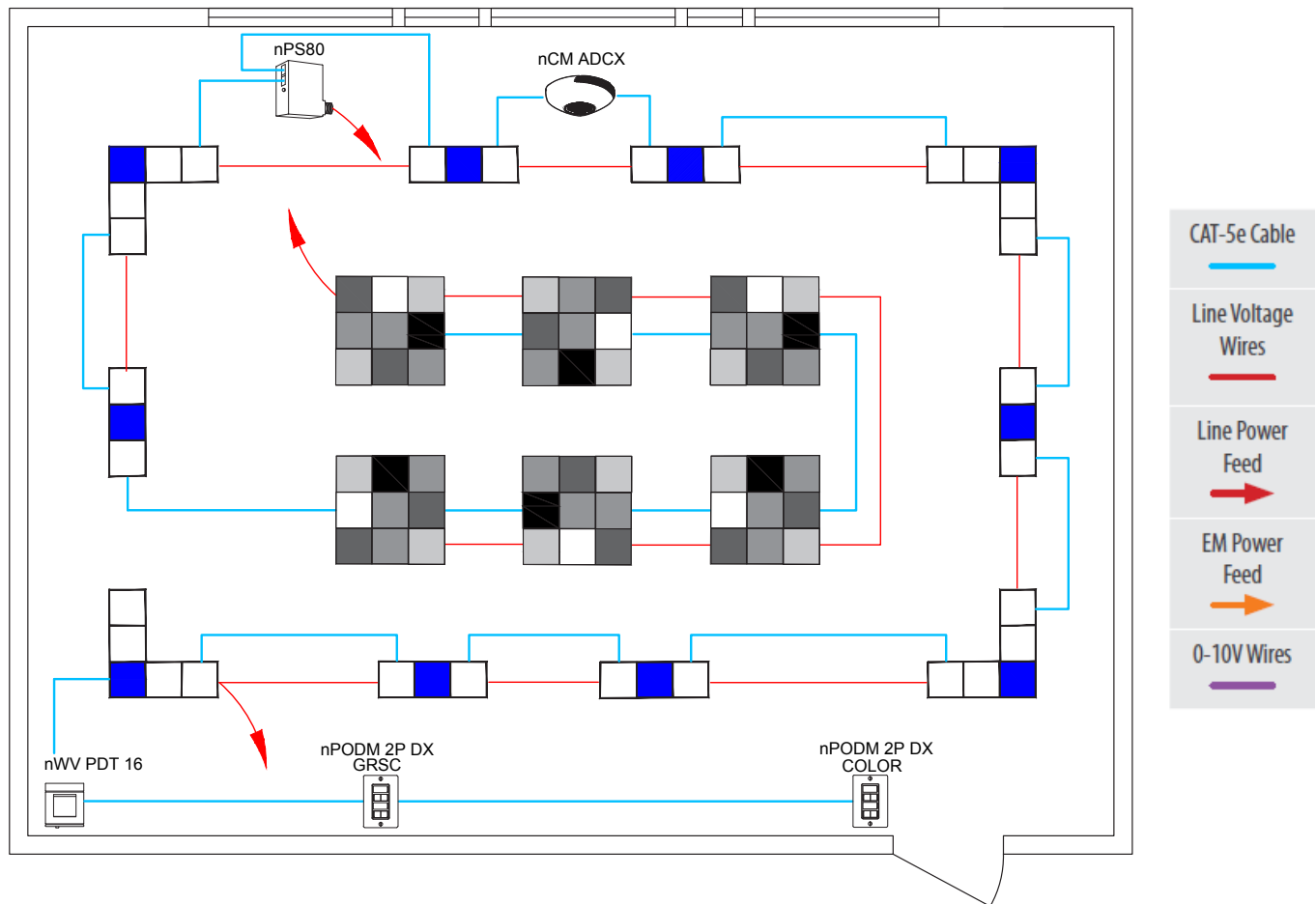# nTune™ – Rubik Grayscale & Color Accent User Programming Guide

The nTune programming guide provides an overview of the Grayscale and Color Accent Mainstream Dynamic Features application in SensorView™ with programming instructions for an nLight® enabled Acuity Brands Rubik luminaire with nTune technology.

Features – Grayscale and Color Accent

- Full control over Grayscale speed on second pole
- Full control over Color Accent color on second pole
- Works will all existing nLight networks switches, sensors, and controls

Application Layout:

Legend:
- CAT-5e Cable
- Line Voltage Wires
- Line Power Feed
- EM Power Feed
- 0-10V Wires

Mainstream Dynamic Grayscale with nTune™ Technology

Mainstream Dynamic Color Accent with nTune™ Technology

Bill of Materials

| Symbol	Qty	Product	
	16	Rubik	nLight Enabled Fixtures
	1	nPODM 2P DX GRSC	On/Off, Raise/Lower Intensity, Grayscale Speed Control
	1	nPODM 2P DX COLOR	On/Off, Raise/Lower Intensity, Color Accent Color Control
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor
	1	nPS 80	Bus Power Supply (80mA)

Options

Symbol	Qty	Product	
	1	nCM ADCX (RJB)	Automatic Dimming Control Photocell

NOTE: nLight enabled fixtures each consume either ~3mA of nLight bus power without a sensor or ~6mA of nLight bus power with a sensor:

- Bus power is supplied by power/relay packs (nPP16 family and nPS 80), power supplies (PP20 PL BP and nPANELS), nLight enabled fixtures (non-EMG or TUWH options), and bridges
- nPP16 D ER and nPP20 PL are self-powered and do not contribute bus power to the nLight zone
- Power for all bus power consuming devices is delivered via the CAT-5e
- nLight zones need to have a net positive amount of bus power

Typical nLight Bus Power Calculations
nLight enabled luminaires with nTune

Power consumers (typical)

Power providers
Standard nLigth enabled luminaire
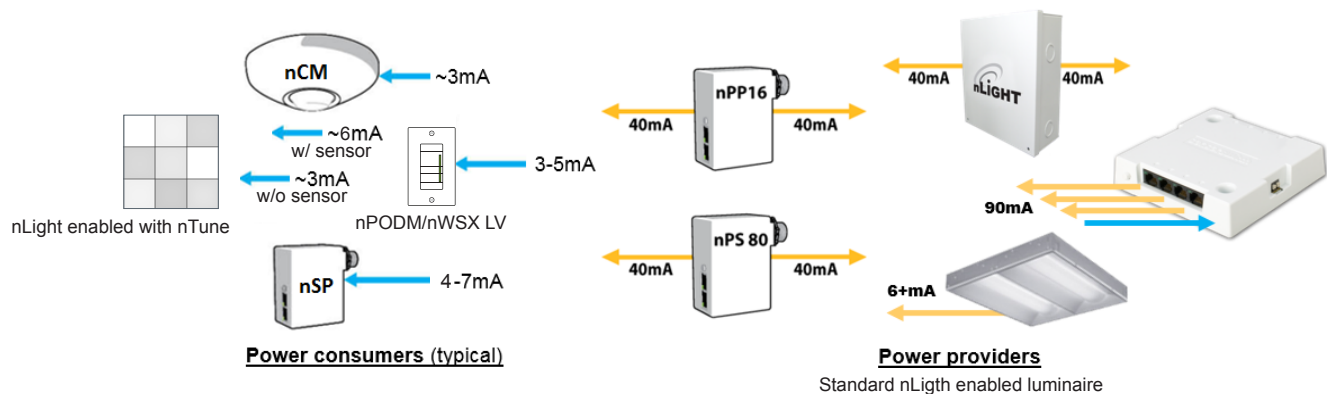
Available nLight Wallpods with default Rubik control

nPODM 2P DX GRSC

nPODM 4S DX GRSC

nPODM 2P DX COLOR

nPODM 4S DX COLOR

nPODM 4S DX GRSC factory default programming

Label	Grayscale Speed	Percentage
White	Static White (all cells at the same luminance)	Off (0%)
Gray	Static Grayscale	1%
Slow	Dynamic Grayscale with a slow speed	2%
Fast	Dynamic Grayscale with a fast speed	100%

nPODM 4S DX COLOR factory default programming

Label	Color		Percentage
White	Static White (Color Accent cell matches other cells)	#FFFFFF	Off (0%)
Color 1	Ferrari Red	#FF1C00	2%
Color 2	Dark Pastel Green	#03C03C	52%
Color 3	Denim	#1560BD	68%

Application Examples

Grayscale

**Static White Mode**

Color Accent

Programming Rubik through SensorView

Acuity Brands Rubik luminaires with nTune technology have an nLight model nIO EZDL/EZDA GRSC or nIO EZDL/EZDA COLOR embedded device which displays as a dual pole device within SensorView.

Rubik Grayscale

- **Pole 1:** Intensity control - maintains all of the same settings as the current nIO EZ PH/nIO EZDL CCT device, including capability to track switch/photocell/occupancy channels.

- **Pole 2:** Grayscale Speed – ONLY tracks switch channels; does not have settings to track photocell/occupancy channels. Grayscale Speed pole does not support global channels
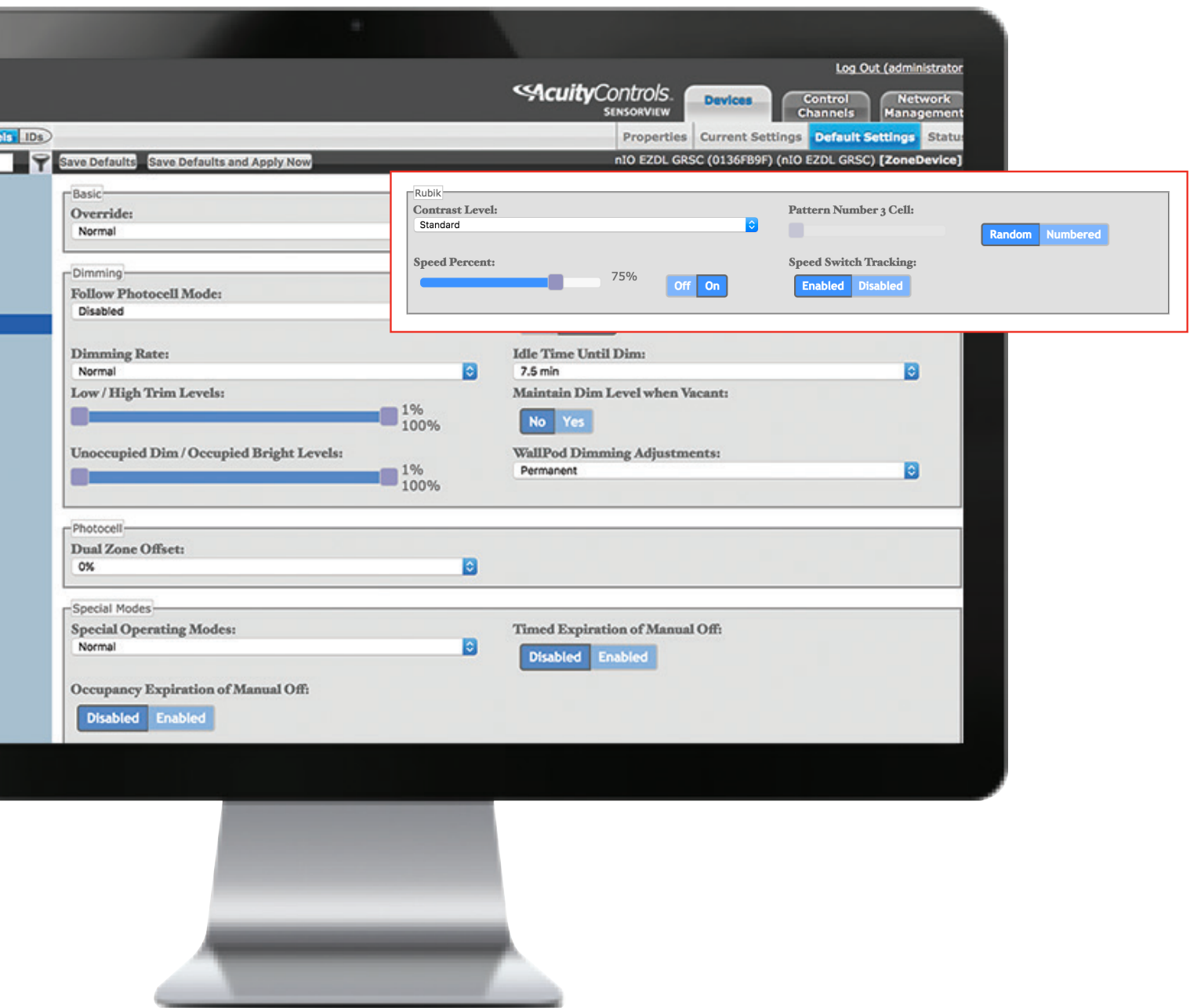
These settings each have the following operation:

- **Contrast Level:** Allows the user to set the contrast of the grayscale luminaire to Standard, Enhanced, or Maximum

 Standard   Enhanced   Maximum

- **Grayscale Speed Percent:** Current grayscale speed of luminaire as a percentage. The grayscale speed percentage maps to luminaire behavior via the following chart:

- **Speed Switch Tracking:** Allows user to enable/disable switch tracking commands for the grayscale speed
- **Pattern Number 3/5/9 Cell:** Sets the luminaire to display a Random grayscale pattern when in static grayscale mode (default) or a particular pattern number (to assist with patterning in an installation). The pattern number has no effect in dynamic gray mode (2%-100%)

Percentage	Behavior
Off (0%)	Static White (all cells at the same luminance)
1%	Static Grayscale Pattern
2%	Dynamic Grayscale with a slow speed
⌄ ⌄ ⌄	⌄ ⌄ ⌄
100%	Dynamic Grayscale with a fast speed

Rubik Color Accent

- **Pole 1:** Intensity control - maintains all of the same settings as the current nIO EZ PH/nIO EZDL CCT device, including capability to track switch/photocell/occupancy channels.
- **Pole 2:** Color Accent Color – ONLY tracks switch channels; does not have settings to track photocell/occupancy channels. Color Accent Color pole does not support global channels.

These settings each have the following operation:
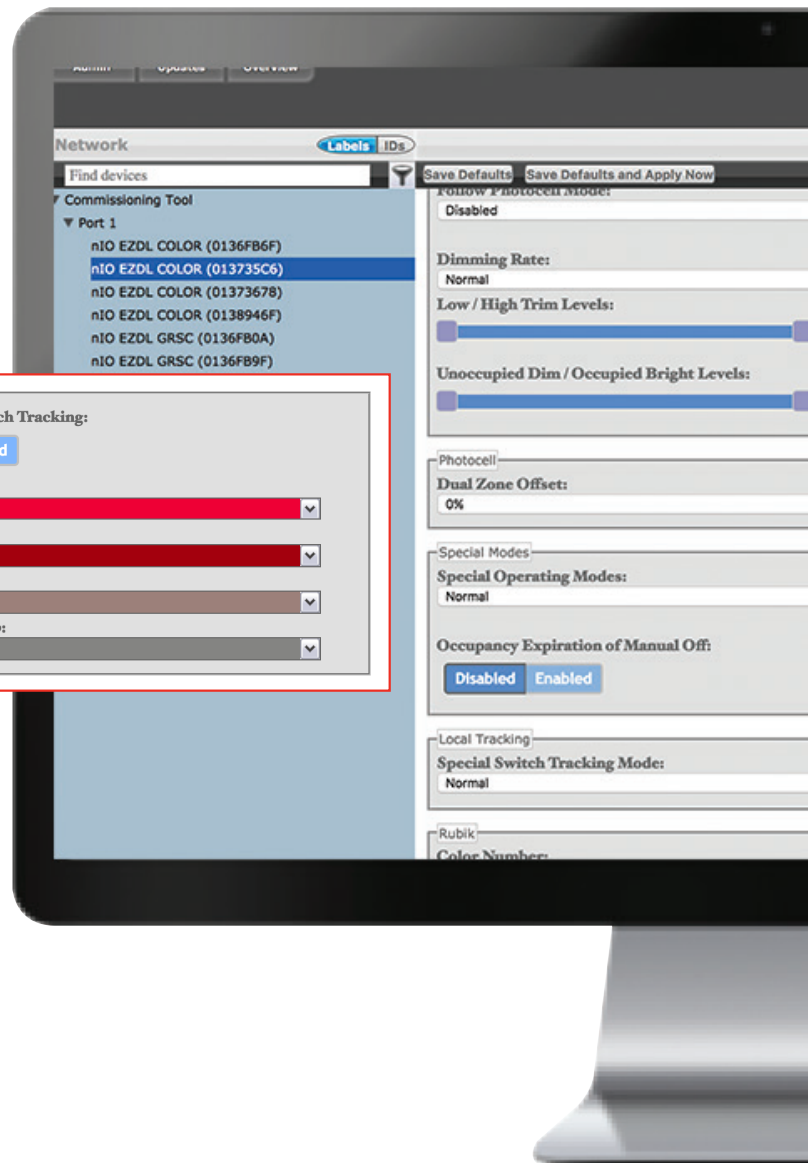
- **Color Number:** Current color accent color of luminaire as a percentage. The color will map to luminaire behavior via the following chart
- **Color Number Switch Tracking:** Allows user to enable/disable switch tracking commands for the color accent color
- **Custom Color:** Allows the user to replace color numbers 93-100 with custom colors

Programming Rubik through SensorView – Rubik Color Number Chart

Percentage	Color Name	Color	Percentage	Color Name	Color
1%	Pastel Red	#FF6961	26%	Pastel Brown	#836953
2%	Ferrari Red	#FF1C00	27%	Brown	#964B00
3%	Chestnut	#CD5C5C	28%	Sepia	#704214
4%	Jasper	#D73B3E	29%	Dark Brown	#654321
5%	Maroon	#800000	30%	Dark Lava	#483C32
6%	Manual Maroon	#5A1414	31%	Saffron	#F4C430
7%	Dark Sienna	#3C1414	32%	Amber	#FFBF00
8%	Atomic Tangerine	#FF9966	33%	Dark Goldenrod	#B8860B
9%	Flame	#E25822	34%	Lemon	#FFF700
10%	Dark Coral	#CD5B45	35%	Dandelion	#F0E130
11%	Dark Chestnut	#986960	36%	Citrine	#E4D00A
12%	Dark Pastel Red	#C23B22	37%	Dark Khaki	#BDB76B
13%	Rust	#B7410E	38%	Lime	#BFFF00
14%	Burnt Umber	#8A3324	39%	Pear	#D1E231
15%	Auburn	#6D351A	40%	Apple Green	#8DB600
16%	Sunset	#FAD6A5	41%	Olive	#808000
17%	Pastel Orange	#FFB347	42%	Army Green	#4B5320
18%	Fawn	#E5AA70	43%	Inchworm	#B2EC5D
19%	Dark Orange	#FF8C00	44%	Celadon	#ACE1AF
20%	Gamboge	#E49B0F	45%	Dollar Bill	#85BB65
21%	Desert	#C19A6B	46%	Camouflage Green	#78866B
22%	Safety Orange	#FF6700	47%	Green	#008000
23%	Copper	#B87333	48%	Aquamarine	#7FFFD4
24%	Burnt Orange	#CC5500	49%	Clover	#00FF6F
25%	Golden Brown	#996515	50%	Ash Grey	#B2BEB5

Programming Rubik through SensorView – Rubik Color Number Chart

Percentage	Color Name	Color
51%	Caribbean Green	#00CC99
52%	Dark Pastel Green	#03C03C
53%	Jade	#00A86B
54%	Cadmium Green	#006B3C
55%	British Racing Green	#004225
56%	Cyan	#00FFFF
57%	Sky Blue	#87CEEB
58%	Pastel Blue	#AEC6CF
59%	Dark Cyan	#008B8B
60%	Cerulean	#007BA7
61%	Dark Slate Gray	#2F4F4F
62%	Alice Blue	#F0F8FF
63%	Cornflower Blue	#6495ED
64%	Azure	#007FFF
65%	Air Force Blue	#5D8AA8
66%	Glaucous	#6082B6
67%	Steel Blue	#4682B4
68%	Denim	#1560BD
69%	Cadet	#536878
70%	Cobalt	#0047AB
71%	Dark Cerulean	#08457E
72%	Oxford Blue	#002147
73%	Blue	#0000FF
74%	Duke Blue	#00009C
75%	Royal Blue	#002366

Percentage	Color Name	Color
76%	Bright Lavender	#BF94E4
77%	Violet	#8F00FF
78%	Purple Heart	#69359C
79%	Magenta	#FF00FF
80%	Pastel Violet	#CB99C9
81%	Byzantine	#BD33A4
82%	Plum	#8E4585
83%	Dark Magenta	#8B008B
84%	Byzantium	#702963
85%	Classic Rose	#FBCCE7
86%	Pastel Magenta	#F49AC2
87%	Sky Magenta	#CF71AF
88%	Bright Pink	#FF007F
89%	Dark Raspberry	#872657
90%	Eggplant	#614051
91%	Dark Pink	#E75480
92%	Dark Scarlet	#560319
93%	Dark Terra Cotta	#CC4E5C
94%	Crimson	#DC143C
95%	Cordovan	#893F45
96%	Carmine	#960018
97%	Rosewood	#65000B
98%	Cinereous	#98817B
99%	Pastel Gray	#CFCFC4
100%	Battleship Grey	#848482

Local Switch Channels Tracking Screenshot
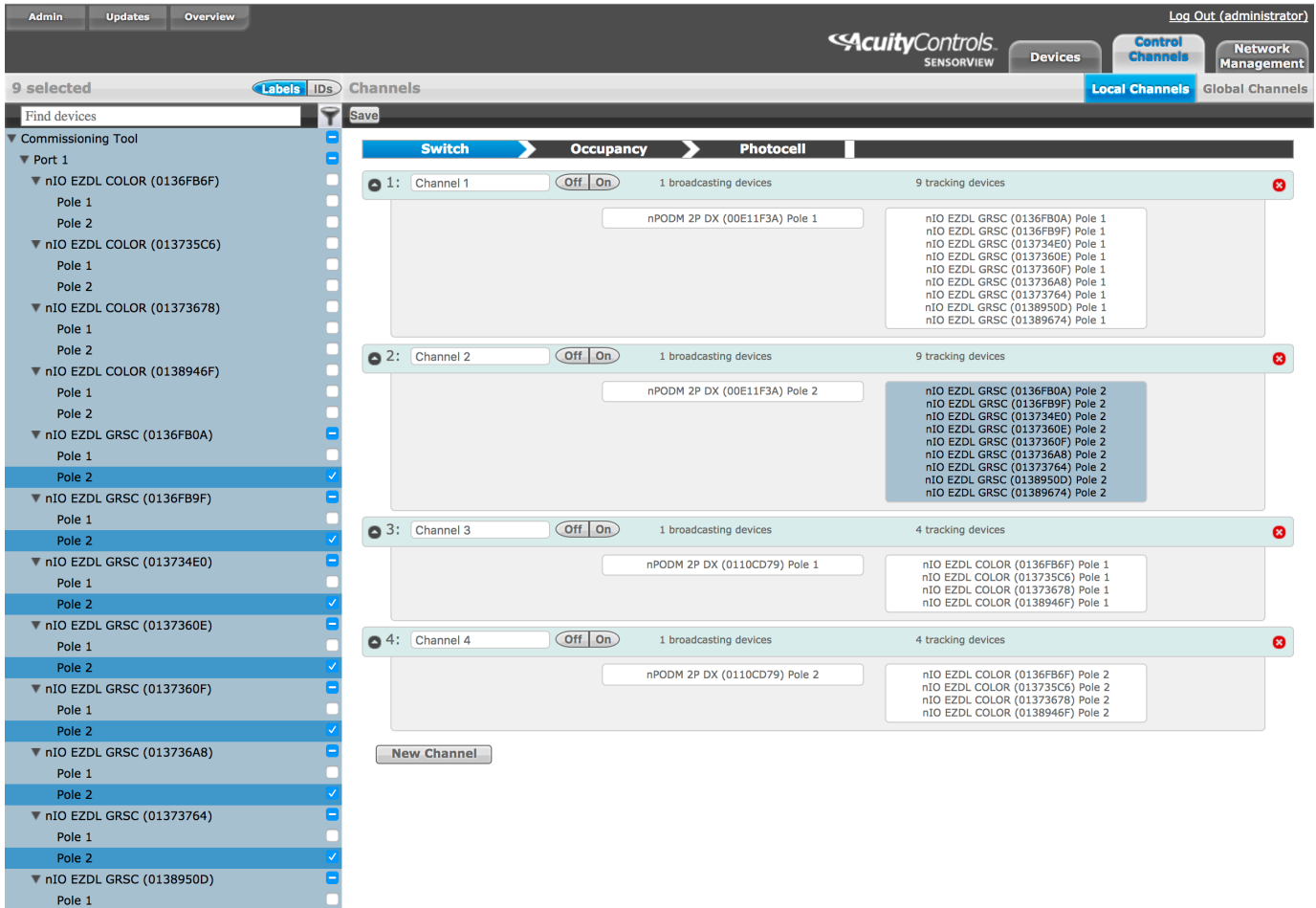
Scheduling Rubik Luminaire Changes Through Profiles

System scheduling can be used to adjust the grayscale speed, grayscale contrast, color accent color number, and color accent custom color 100 through the day – this is accomplished by creating "global profile scenes" at scheduled times of the day.

There are two notes that should be applied/considered when using this feature:

- "Global profile scenes" modify all device settings to defaults, except for those added in the settings window. Therefore, if the luminaire intensity ("occupied bright level") has been modified by the end user from a dimming WallPod, the "WallPod dimming adjustments" setting should be set to "permanent" to stop the luminaire intensity from changing when each scheduled event implements. The same process applies to the "override" setting if the lights were overridden off by a WallPod device.

- The "dimming rate" setting on the nIO device can be used to adjust the amount of time to transfer from one setting to another when a "profile scene" implements.

  - Slowest - 300 seconds
  - Slow - 15 seconds
  - Normal - 5 seconds
  - Faster - 2 seconds
  - Faster - 1 second

Example of "global profile scenes" created in SensorView