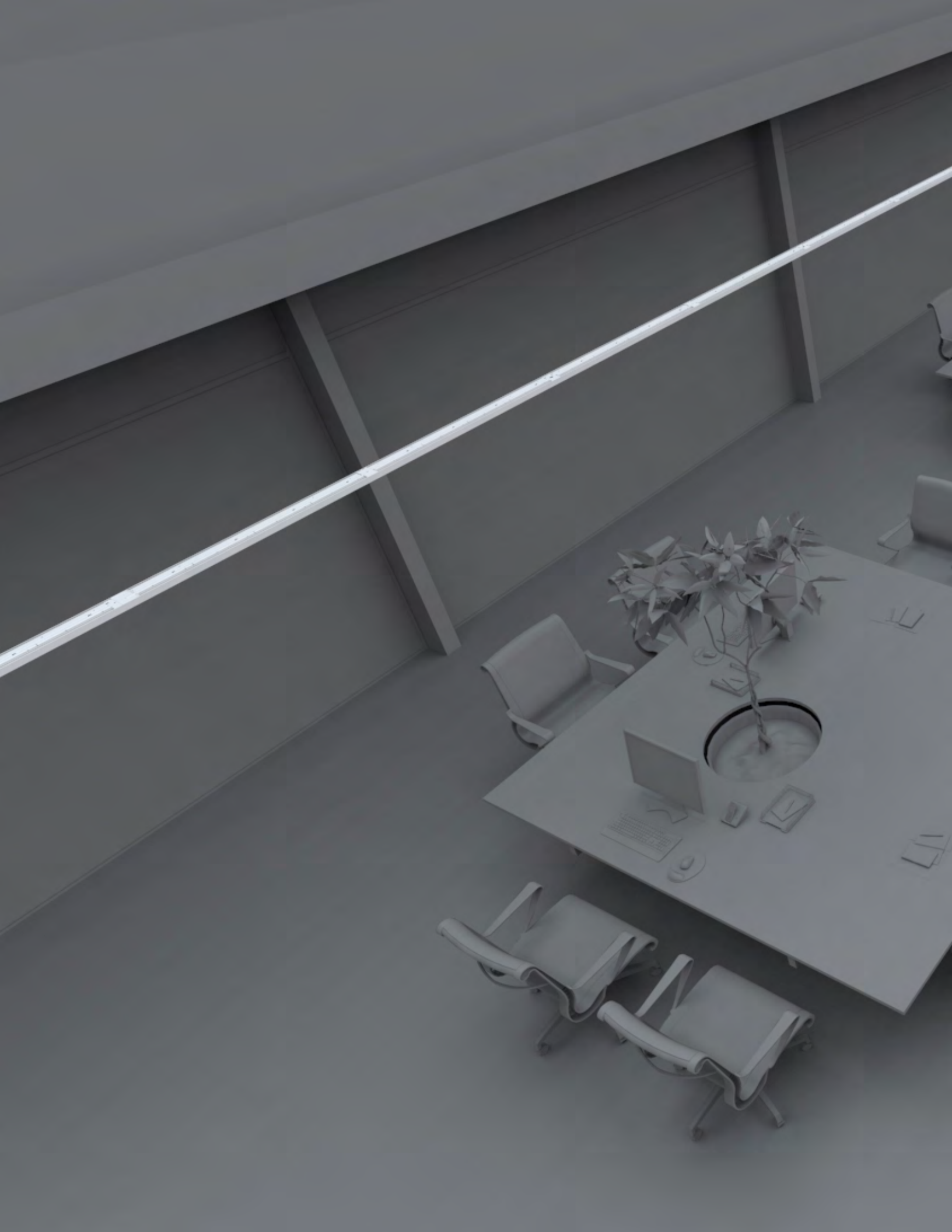


RENNA™ AND MODULUS™ TECHNOLOGY DESIGN GUIDE

EXPLORE DESIGN OPTIONS AND COST SAVINGS

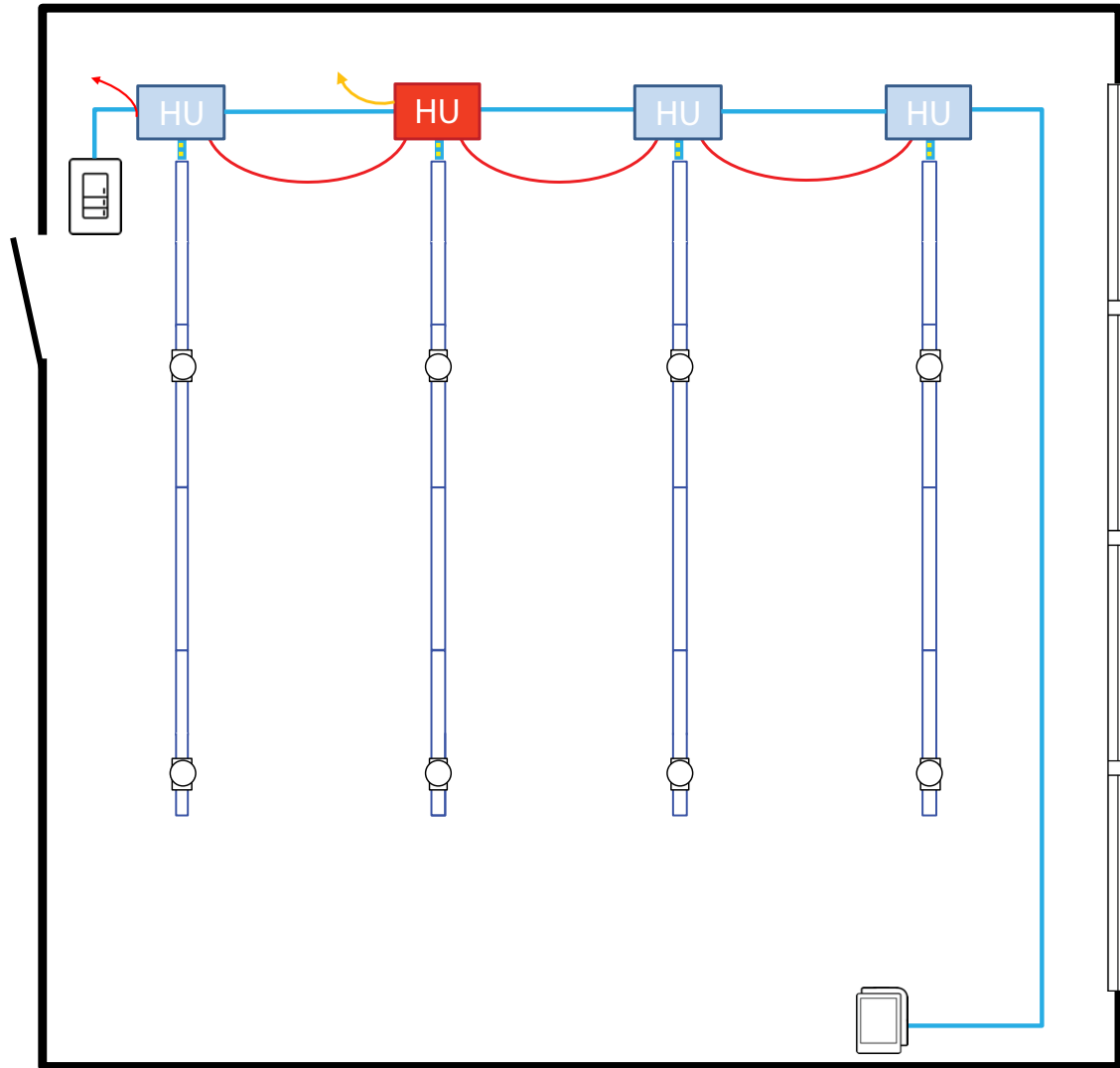














OPEN OFFICE WITH RENNA AND MODULUS (IECC 2018)



* Design and cost may change due to code requirements.

BILL OF MATERIALS

Symbol	Qty	Product #	Description
	16	RNNAID 32FT MSL8 90CRI 35K I600LMF 300LMF SSH NLIGHT MVOLT DCT	(4) 8FT Renna fixtures with VERTEX sensors, (4) Renna fixtures without VERTEX sensors
	3	Modulus Head Unit	Modulus Head Unit
	1	Modulus Head Unit - EMG	Modulus Head Unit - EMG
	8	VERTEX Sensor	VERTEX Sensor
	1	nPOD TOUCH WH	nLight UNITOUCH
	1	nPODMA DX WH	On/Off, Raise/Lower wall switch

OPERATIONAL DETAILS

Occupancy Control:

- Fixtures must be turned on manually (or optionally can be configured to turn on automatically to 50%)
- Fixtures turn off automatically when room becomes vacant
- General lighting must be controlled in zones not greater than 600 sq. ft.

Daylight Control:

- Smooth continuous dimming
- Custom grouping of fixtures into separate daylight zones (max. number zones = number of fixtures)
- Not required for spaces without windows or that have loads <150W in sidelit zones

Manual Control:

- On/off & raise/lower control of fixtures

ADDITIONAL POINTS

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller or through occupancy sensor auxiliary relay (AR) contact option
- nLight enabled fixtures comply with monitoring and configuration requirements of Luminaire Level Lighting Controls (LLLC) (C405.2.1, C405.2.4, C405.2.5)

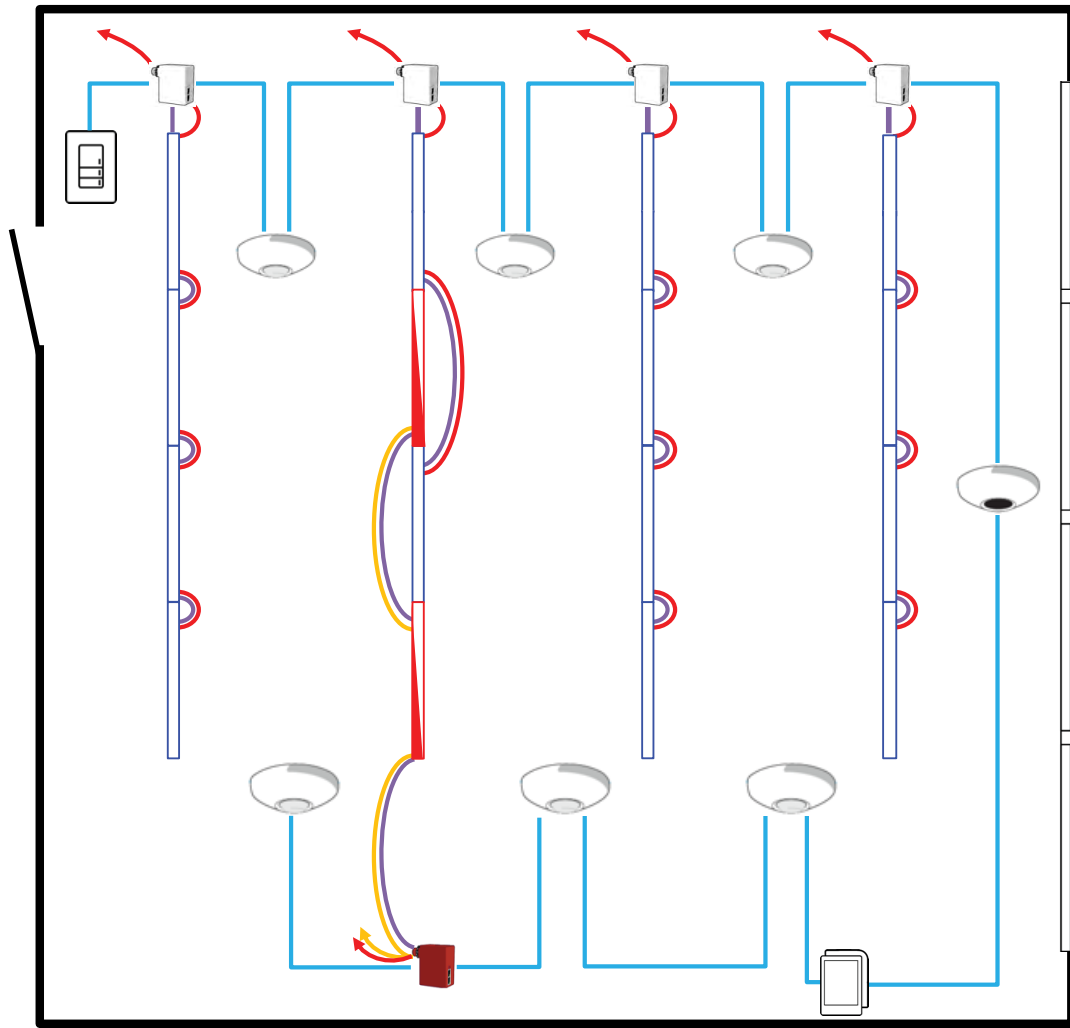
CONTROL COSTS

	Qty	Labor (Tot hr)	Labor (\$80*hr)
Luminaires	16	5.34	\$427
Control Devices (HU)	4	2	\$160
Wall Controllers	1	0.2	\$16
Touchscreen Controllers	1	0.5	\$40
Sensors (Embedded)	8	0	\$0
Total		8.04	\$643

NOTES

- Labor cost for electrical contractor - \$80/hr
- 4 row 4 (8fters)
- 15ft centers
- 80/50/20 reflectance
- 10ft ceiling
- 2ft suspension
- 2.5ft work plane









OPEN OFFICE WITH TRADITIONAL LUMINAIRES AND POWER PACKS (IECC 2018)



CAT-5e Cable	0-10V Wire	Line Voltage Wires	Line Power Feed	EMG Power Feed
				

* Design and cost may change due to code requirements.

BILL OF MATERIALS

Symbol	Qty	Product #	Description
	14	XYZ8 MSL8 90CRI 35K ID1000LMF 70/30 DARK ZT SCT	8 ft Traditional Linear Luminaire with thru wire
	2	XZY8 MSL8 90CRI 35K ID1000LMF 70/30 DARK ZT SCT E10WLCP	8 ft Traditional EM Linear Luminaire with thru wire
	4	nPP16 D EFP	Relay Module with 0-10V Dimming Output
	1	nPP16 D ER EFP	Emergency Relay Module with 0-10V Dimming Output
	6	nCM PDT	VERTEX Sensor for Daylighting
	1	nCM ADCX	Automatic Dimming Control Photocell
	1	nPOD TOUCH WH	nLight UNITOUCH
	1	nPODMA DX WH	On/Off, Raise/Lower wall switch

OPERATIONAL DETAILS

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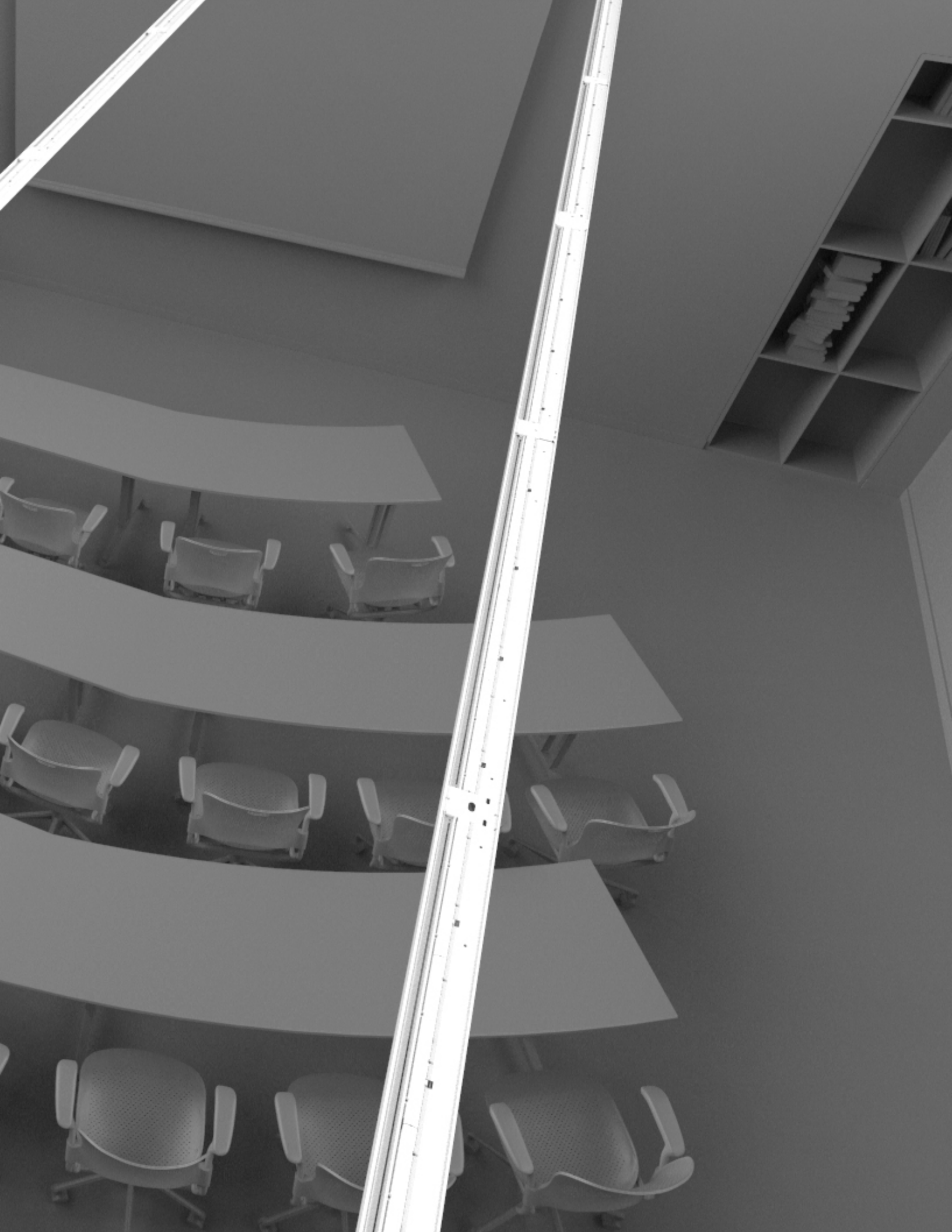
CONTROL COSTS

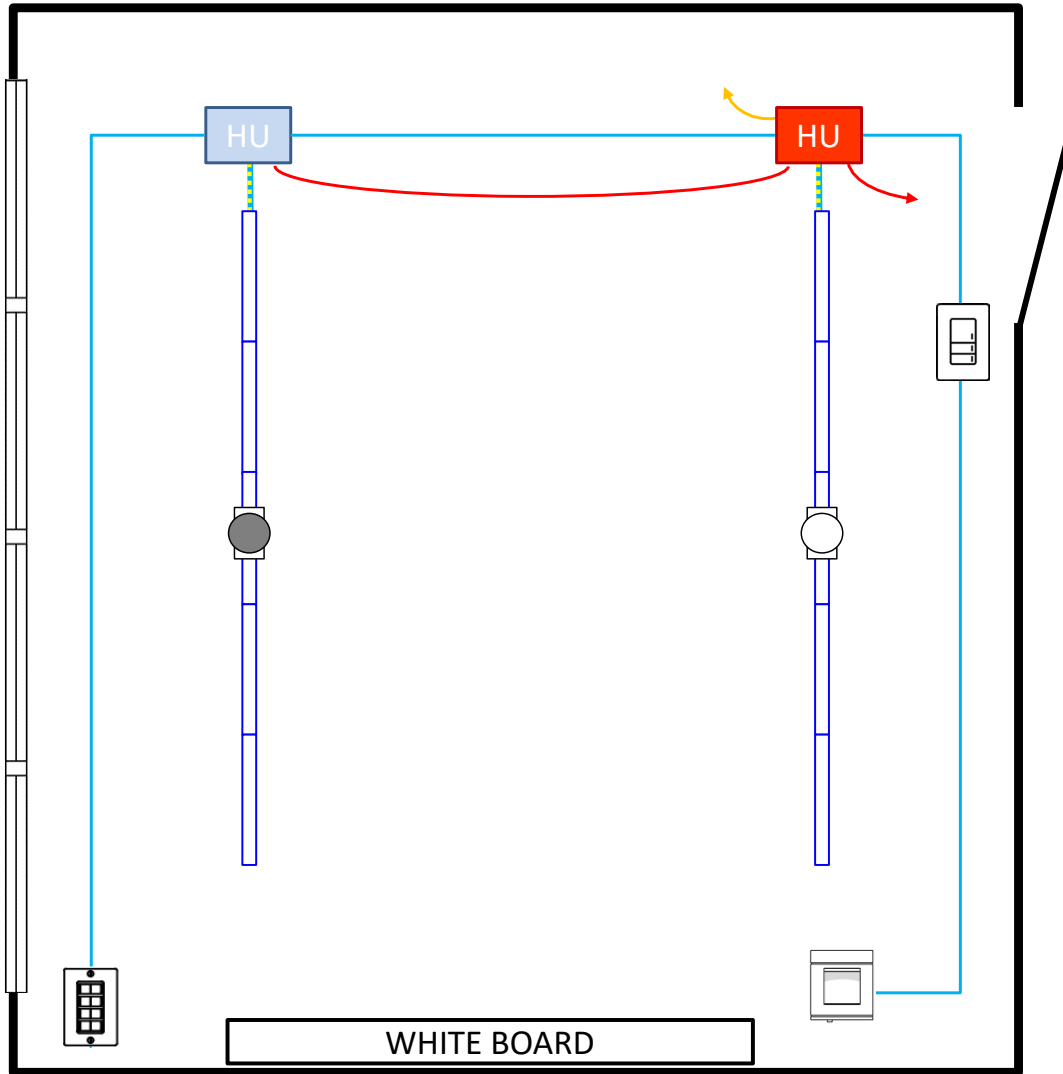
	Qty	Labor (Tot hr)	Labor (\$80*hr)
Luminaires	14	4.67	\$373
EMG Luminaires	2	0.80	\$64
Control Devices (PP)	4	2.00	\$160
Control Devices (ER PP)	1	0.50	\$40
Wall Controllers	1	0.20	\$16
Touchscreen Controllers	1	0.50	\$40
Sensors (OS)	6	3.00	\$240
Sensors (PS)	1	0.50	\$40
Total		12.17	\$973

NOTES

- Labor cost for electrical contractor - \$80/hr















* Design and cost may change due to code requirements.

BILL OF MATERIALS

Symbol	Qty	Product #	Description
	10	RNNAID MSL4 90CRI 35K I600LMF 300LMF SSH DARK NLIGHT MVOLT DCT	Renna Fixture
	1	Modulus Head Unit	Modulus Head Unit
	1	Modulus Head Unit – EM	Emergency Modulus Head Unit
	1	VERTEX Sensor - Daylighting	VERTEX Sensor for Daylighting
	1	VERTEX Sensor	VERTEX Sensor
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor
	1	nPODMA DX WH	On/Off, Raise/Lower wall switch
	1	nPODMA 4S DX	Teacher Station — 4 Scene Control with Master On/Off & Raise/Lower

OPERATIONAL DETAILS

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ADDITIONAL POINTS

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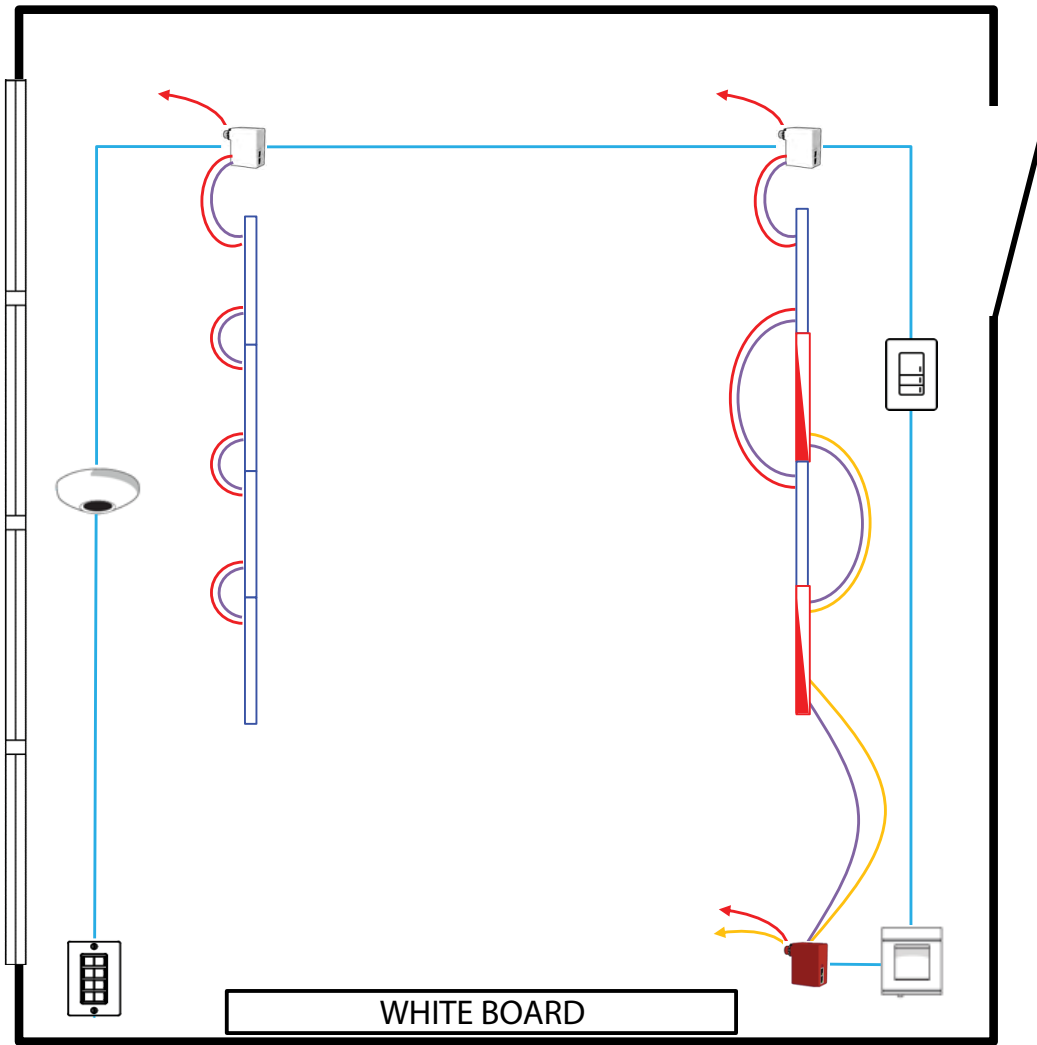
CONTROL COSTS

	Qty	Labor (Tot hr)	Labor (\$80*hr)
Luminaires	10	3.33	\$267
Control Devices (HU)	2	1	\$80
Wall Controllers	2	0.4	\$32
Sensors (nWV)	1	0.5	\$40
Sensors (Embedded)	2	0	\$0
Total		5.23	\$419

NOTES

- Labor cost for electrical contractor - \$80/hr









CLASSROOM WITH TRADITIONAL LUMINAIRES AND POWER PACKS (IECC 2018)



CAT-5e Cable	CAT-5e Cable	Line Voltage Wires	Line Power Feed	EMG Power Feed

* Design and cost may change due to code requirements.

BILL OF MATERIALS

Symbol	Qty	Product #	Description
	6	XYZ8 MSL8 90CRI 35K ID1000LMF 70/30 DARK ZT SCT	8FT Traditional Linear Luminaire with thru wire
	2	XZY8 MSL8 90CRI 35K ID1000LMF 70/30 DARK ZT SCT E10WLCP	T Traditional EM Linear Luminaire with thru wire
	2	nPP16 D EFP	Relay Module with 0-10V Dimming Output
	1	nPP16 D ER EFP	Emergency Relay Module with 0-10V Dimming Output
	1	nCM ADCX	Automatic Dimming Control Photocell
	1	nWV PDT 16	Dual Technology Wide View Occupancy Sensor
	1	nPODMA DX WH	On/Off, Raise/Lower wall switch
	1	nPODMA 4S DX	Teacher Station — 4 Scene Control with Master On/Off & Raise/Lower

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Manual Control:

- On/off & raise/lower control of fixtures

CONTROL COSTS

	Qty	Labor (Tot hr)	Labor (\$80*hr)
Luminaires	6	2.00	\$160
EMG Luminaires	2	0.67	\$53
Control Devices (PP)	2	1.00	\$80
Control Devices (ER PP)	1	0.50	\$40
Wall Controllers	2	0.40	\$32
Touchscreen Controllers	1	0.50	\$40
Sensors (PS)	1	0.50	\$40
Total		5.57	\$445

ADDITIONAL POINTS

- Room can be connected to nLight backbone to enable network control or time schedules (C405.2.2.1 - Time-Switch Controls), and also qualify for Enhanced Digital Lighting Controls (C406.4)
- HVAC control available through system-wide BACnet® interface option on the ECLYPSE controller or through occupancy sensor auxiliary relay (AR) contact option
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NOTES

- Labor cost for electrical contractor - \$80/hr



Peerless[®]