

DESCRIPTION

Cruze LED is a premium grade specification lensed troffer series. This innovative, high quality luminaire is dedicated to the latest solid state lighting and driver technology for optimal performance and energy efficiency. The Cruze is compatible with all of today's popular ceiling systems and is available with a number of options and accessories for application versatility.

The Cruze series features efficiency, quality and performance. The series is an excellent choice for commercial office spaces, schools, hospitals or retail merchandising areas.

SPECIFICATION FEATURES

Construction

Rigid housing is die formed of code gauge prime cold rolled steel and features full length die-formed stiffeners and unibody endplate for added strength. Side flanges are hemmed. Innovative design provides superior lens brightness uniformity and visual comfort. Unibody endplates are securely attached with interlocking tabs and screws. Four auxiliary fixture end suspension points provided.

Controls

The Cruze LED is Powered by Fifth Light, with a standard 0-10V continuous dimming driver that works with any 0-10V control/dimmer. Combine with energy saving products like occupancy sensors, daylighting controls and lighting relay panels to maximize energy savings. In addition, the Cruze can include a factory-installed integrated sensor system for occupancy and daylight dimming control and manual control from an optional handheld remote. Or, specify the Digital Addressable Lighting Interface (DALI) drivers, dimmable down to 10%, for use with Fifth Light controls. See ordering information for details on all three options.

Electrical

Long-Life LED system coupled with electrical driver to deliver optimal performance. LED's available in 3000K, 3500K, 4000K or 5000K with a CRI ≥ 85. Projected life is 60,000 hours at 83% lumen output. cULus listed. Electronic drivers are available for 120-277V applications.

Emergency Battery Pack Option

Optional 120v-277v integral emergency battery pack is available in 7-watts or 14-watts to meet critical life-safety lighting requirements. The 90-minute batteries provide constant power to the LED system, ensuring code-compliance. A test switch/indicator button can be tested safely from the ground using a laser pointer, while the patented EZ Key prevents accidental discharge of the battery during construction. See ordering information for details.

Finish

Multistage, iron phosphate pretreatment ensures maximum bonding and rust inhibition. Housing finished with 90% reflective white enamel for superior performance.

Catalog #		Type
Project		
Comments		Date
Prepared by		

Hinging/Latching

Positive cam action steel latches with baked white enamel finish. Safety-lock T-hinges allow hinging and latching either side. Door assembly hinges down for easy access from below.

Frame/Shielding

Die formed, heavy gauge, flat steel door with reinforced mitered corners and painted after fabrication, baked matte white enamel finish. Positive light seals. Acrylic frosted lens.

Compliance

Modules are UL recognized components and indoor luminaires are cULus listed for 25°C ambient environments, RoHS compliant, and LED modules comply with IESNA LM-79 and LM-80 standards. DesignLights Consortium™ Qualified and classified for DLC Standard, refer to www.designlights.org for details.

Warranty

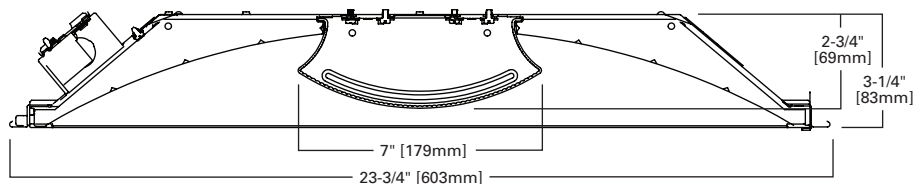
Five year warranty.



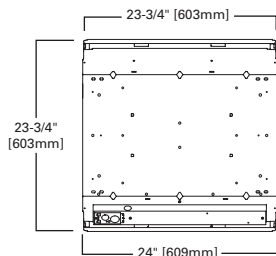
**22CZ
LED**

**2' X 2' TROFFER LED
MODULE**

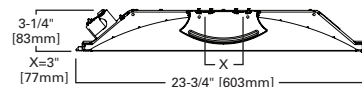
Specification Grade Troffer



MOUNTING DATA



LAMP CONFIGURATIONS



CEILING COMPATIBILITY

G	G	G	Ceiling Type	Trim Type
Grid/Lay-in Standard	Concealed T	Slot Grid	Exposed Grid	Standard
			Concealed T	Standard
			Slot Grid	Standard
			Flange	*

CERTIFICATION DATA

cULus - 1598
 Damp Location Listed
 IC Rated
 LM79/LM80 Compliant
 ROHS Compliant
 DesignLights Consortium™ Qualified
 NOM Compliant

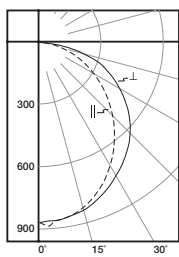
*See Drywall Frame Kit Accessory in Ordering Information Section

LINEAR DISCONNECT

Safe and convenient means of disconnecting power



PHOTOMETRICS



22CZ-LD4-24-UNV-L835-CD1-U

Electronic Driver
 Linear LED 3500K
 Spacing criterion:
 (II) 1.2 x mounting
 height, (⊥) 1.3 x
 mounting height
 Lumens: 2417
 Input Watts: 22.6W
 Efficacy: 106.9 lm/W
 Test Report:
 22CZ-LD4-24-UNV-
 L835-CD1-U.IES

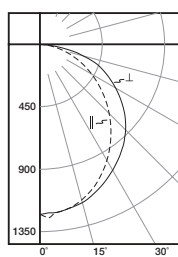
Candlepower			
Angle	Along II	45°	Across ⊥
0	861	861	861
5	857	868	855
10	842	844	843
15	815	821	828
20	776	788	801
25	731	747	770
30	676	700	733
35	618	648	697
40	557	595	657
45	494	539	612
50	429	482	561
55	365	426	503
60	301	369	443
65	240	310	381
70	181	251	319
75	124	190	228
80	73	118	137
85	31	45	43
90	0	0	0

Coefficients of Utilization

rc	Effective floor cavity reflectance																							
	80%				70%				50%				30%				10%				0%			
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	0	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	0
1	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83	83	83	83	83	83	0
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69	69	69	69	69	69	0
3	90	79	70	64	87	77	69	63	74	68	62	71	66	61	69	64	60	58	58	58	58	58	58	0
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49	49	49	49	49	49	0
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42	42	42	42	42	42	0
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37	37	37	37	37	37	0
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	40	35	33	33	33	33	33	33	0
8	60	46	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31	29	29	29	29	29	29	0
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26	26	26	0
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24	24	24	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	658	27.2
0-40	1065	44.1
0-60	1869	77.3
0-90	2417	100.0
0-180	2417	100.0



22CZ-LD4-34-UNV-L835-CD1-U

Electronic Driver
 Linear LED 3500K
 Spacing criterion:
 (II) 1.2 x mounting
 height, (⊥) 1.3 x
 mounting height
 Lumens: 3420
 Input Watts: 34.5W
 Efficacy: 99.1 lm/W
 Test Report:
 22CZ-LD4-34-UNV-
 L835-CD1-U.IES

Candlepower			
Angle	Along II	45°	Across ⊥
0	1219	1219	1219
5	1214	1229	1211
10	1192	1194	1194
15	1153	1162	1173
20	1100	1116	1135
25	1032	1057	1090
30	957	990	1040
35	875	918	987
40	788	842	931
45	699	763	866
50	608	684	793
55	516	604	710
60	427	522	624
65	339	439	536
70	255	355	448
75	175	269	321
80	102	166	190
85	43	63	58
90	0	0	0

Coefficients of Utilization

rc	Effective floor cavity reflectance																							
	80%				70%				50%				30%				10%				0%			
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	0	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	0
1	108	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83	83	83	83	83	83	0
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69	69	69	69	69	69	0
3	90	79	70	64	87	77	69	63	74	68	62	71	66	61	69	64	60	58	58	58	58	58	58	0
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49	49	49	49	49	49	0
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43	43	43	43	43	43	0
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37	37	37	37	37	37	0
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	40	35	33	33	33	33	33	33	0
8	60	46	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31	29	29	29	29	29	29	0
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26	26	26	0
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24	24	24	0

Zonal Lumen Summary

Zone	Lumens	% Fixture
0-30	931	27.2
0-40	1508	44.1
0-60	2645	77.3
0-90	3420	100.0
0-180	3420	100.0

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Stock or MTO*	Catalog Logic (Ribbed)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD4-20-UNV-L830-CD1-U	1888	18.9	100
MTO	22CZ-LD4-20-UNV-L835-CD1-U	2056	18.9	108
MTO	22CZ-LD4-20-UNV-L840-CD1-U	2166	18.9	114
MTO	22CZ-LD4-20-UNV-L850-CD1-U	2261	18.9	119
MTO	22CZ-LD4-24-UNV-L830-CD1-U	2220	22.6	98
Stock	22CZ-LD4-24-UNV-L835-CD1-U	2417	22.6	107
Stock	22CZ-LD4-24-UNV-L840-CD1-U	2547	22.6	113
MTO	22CZ-LD4-24-UNV-L850-CD1-U	2658	22.6	118
MTO	22CZ-LD4-29-UNV-L830-CD1-U	2682	28.2	95
MTO	22CZ-LD4-29-UNV-L835-CD1-U	2920	28.2	103
MTO	22CZ-LD4-29-UNV-L840-CD1-U	3077	28.2	109
MTO	22CZ-LD4-29-UNV-L850-CD1-U	3211	28.2	114
MTO	22CZ-LD4-34-UNV-L830-CD1-U	3141	34.4	91
Stock	22CZ-LD4-34-UNV-L835-CD1-U	3420	34.4	99
Stock	22CZ-LD4-34-UNV-L840-CD1-U	3603	34.4	105
MTO	22CZ-LD4-34-UNV-L850-CD1-U	3761	34.4	109
MTO	22CZ-LD4-39-UNV-L830-CD1-U	3589	41.3	87
MTO	22CZ-LD4-39-UNV-L835-CD1-U	3908	41.3	95
MTO	22CZ-LD4-39-UNV-L840-CD1-U	4118	41.3	100
MTO	22CZ-LD4-39-UNV-L850-CD1-U	4298	41.3	104
MTO	22CZ-LD4-44-UNV-L830-CD1-U	4035	49.2	82
MTO	22CZ-LD4-44-UNV-L835-CD1-U	4394	49.2	89
MTO	22CZ-LD4-44-UNV-L840-CD1-U	4630	49.2	94
MTO	22CZ-LD4-44-UNV-L850-CD1-U	4832	49.2	98

*Made to order (MTO) requires a typical four week lead time.

Stock or MTO*	Catalog Logic (Smooth Lens)	Delivered Lumens	Watts	Efficacy (lm/W)
MTO	22CZ-LD4-20-S-UNV-L830-CD1-U	1912	18.9	101
MTO	22CZ-LD4-20-S-UNV-L835-CD1-U	2082	18.9	110
MTO	22CZ-LD4-20-S-UNV-L840-CD1-U	2194	18.9	116
MTO	22CZ-LD4-20-S-UNV-L850-CD1-U	2290	18.9	121
MTO	22CZ-LD4-24-S-UNV-L830-CD1-U	2248	22.6	99
MTO	22CZ-LD4-24-S-UNV-L835-CD1-U	2448	22.6	108
MTO	22CZ-LD4-24-S-UNV-L840-CD1-U	2579	22.6	114
MTO	22CZ-LD4-24-S-UNV-L850-CD1-U	2692	22.6	119
MTO	22CZ-LD4-29-S-UNV-L830-CD1-U	2715	28.2	96
MTO	22CZ-LD4-29-S-UNV-L835-CD1-U	2957	28.2	105
MTO	22CZ-LD4-29-S-UNV-L840-CD1-U	3116	28.2	110
MTO	22CZ-LD4-29-S-UNV-L850-CD1-U	3252	28.2	115
MTO	22CZ-LD4-34-S-UNV-L830-CD1-U	3180	34.4	92
MTO	22CZ-LD4-34-S-UNV-L835-CD1-U	3463	34.4	100
MTO	22CZ-LD4-34-S-UNV-L840-CD1-U	3649	34.4	106
MTO	22CZ-LD4-34-S-UNV-L850-CD1-U	3808	34.4	110
MTO	22CZ-LD4-39-S-UNV-L830-CD1-U	3634	41.3	88
MTO	22CZ-LD4-39-S-UNV-L835-CD1-U	3957	41.3	96
MTO	22CZ-LD4-39-S-UNV-L840-CD1-U	4170	41.3	101
MTO	22CZ-LD4-39-S-UNV-L850-CD1-U	4352	41.3	105
MTO	22CZ-LD4-44-S-UNV-L830-CD1-U	4086	49.2	83
MTO	22CZ-LD4-44-S-UNV-L835-CD1-U	4450	49.2	90
MTO	22CZ-LD4-44-S-UNV-L840-CD1-U	4688	49.2	95
MTO	22CZ-LD4-44-S-UNV-L850-CD1-U	4893	49.2	99

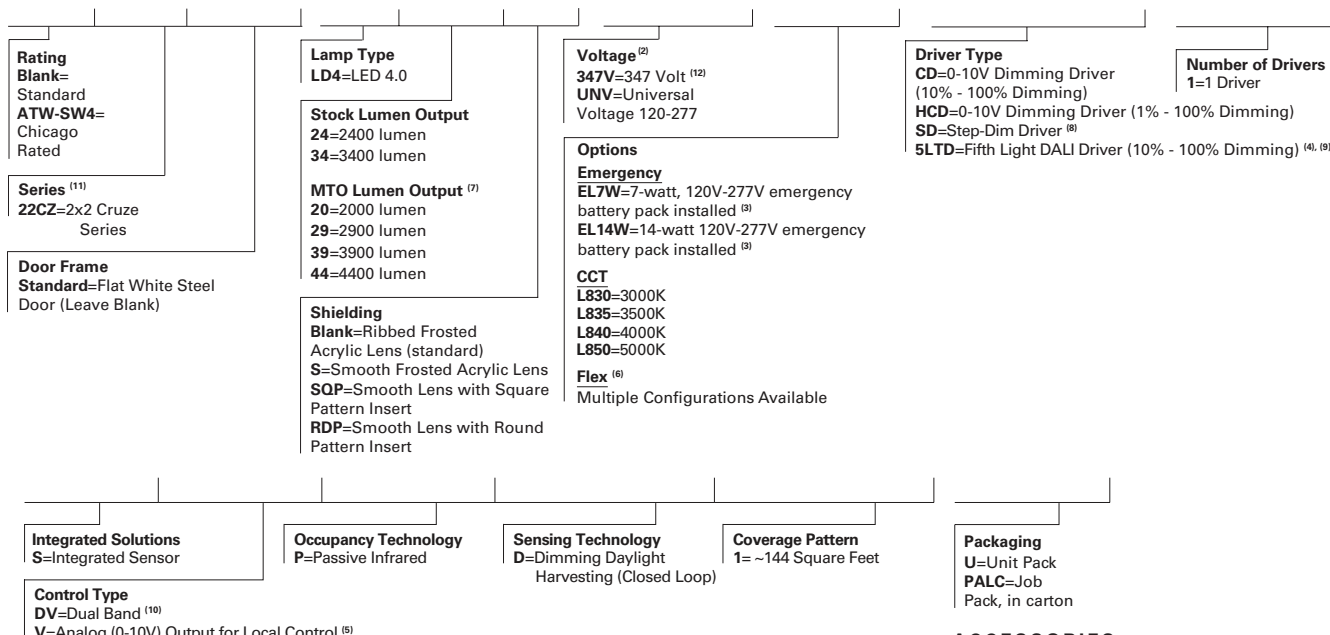
*Made to order (MTO) requires a typical four week lead time.

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 83%	> 117,000

ORDERING INFORMATION

SAMPLE NUMBER: 22CZ-LD4-34-UNV-L835-CD1-U



ACCESSORIES

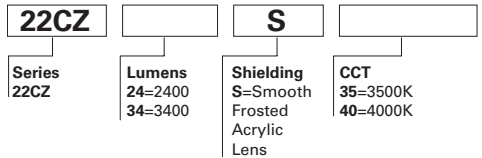
- EQ-CLIP-U=T-BAR Safety Earthquake Clips ⁽¹⁾
- DF-22-W=2' x 2' Drywall Frame Kit
- SK-22-WS=2' x 2' Shallow Surface Mount Kit
- SK-22-WT=2' x 2' Tall Surface Mount Kit
- DF10P-C=Decorator Dimmer, 0-10V
- SF10P-_=Decorator Slide Dimmer, 0-10V
- HHPRG-MS=Programming Remote for Integrated Sensor

NOTES: ⁽¹⁾An EQ Grid Clip is recommended for all 9/16" ceiling systems. Four required per fixture. ⁽²⁾Products also available in non-US voltages and frequencies for international markets. ⁽³⁾With integral test switch/indicator/laser test. For approximate delivered lumens multiply the lumens per watt of the desired fixture by the wattage of the emergency battery pack (100 lm/W x 7=700 lumens). IES-format photometry for luminaire under emergency operation available. ⁽⁴⁾Must be used in conjunction with a DALI control system. For a complete listing of Fifth Light Technology products and other solutions from Cooper Controls, visit www.eaton.com/lightingsystems ⁽⁵⁾Integral sensor works only with "CD" driver and is factory prewired to the driver for stand-alone control. ⁽⁶⁾Flex does not include dimming leads. Control leads provided by others. ⁽⁷⁾Made-to-order (MTO) requires a typical four week leadtime. ⁽⁸⁾Step dim driver option is not available with 2000, 2400 and 2900 lumen packages. ⁽⁹⁾Fifth Light (5LTD) driver option is not available with 2000, 2400 and 2900 lumen packages. ⁽¹⁰⁾Provides blank band on opposite side from sensor band to provide symmetric appearance. ⁽¹¹⁾DesignLights Consortium™ Qualified and classified for DLC Standard (all lumen packages), refer to www.designlights.org for details. ⁽¹²⁾347V versions are not available with emergency options.

Specifications & dimensions subject to change without notice. Consult your Eaton Representative for availability and ordering information.

QUICK SHIP SKUS

SAMPLE NUMBER: 22CZ34S40



NOTES: Options are not available with these SKUs. Refer to standard SKU ordering information to add options. Voltage is 120-277V. Driver type is 0-10V dimming. Lead-time is 10 days. Must be ordered in pallet quantities only (48 per pallet).

SHIPPING DATA

Catalog No.	Wt.
22CZ-LD4-27	12.5 lbs.
22CZ-LD4-36	12.5 lbs.



Eaton
1121 Highway 74 South
Peachtree City, GA 30269
P: 770-486-4800
www.eaton.com/lighting

Specifications and dimensions subject to change without notice.

INTEGRATED SENSOR

Description

This innovative luminaire-integrated sensor control system is optimized for code-compliant occupancy detection and daylight harvesting – all from within the foot print of Metalux’s award-winning recessed ambient luminaires.

No New Wires

An in-place fixture retrofit is all that’s needed to meet most energy codes in commercial spaces. The sensor system is factory wired to the luminaire, switching on or off based on occupancy, and dimming the light when enough daylight is available.

Sophisticated lighting control without commissioning

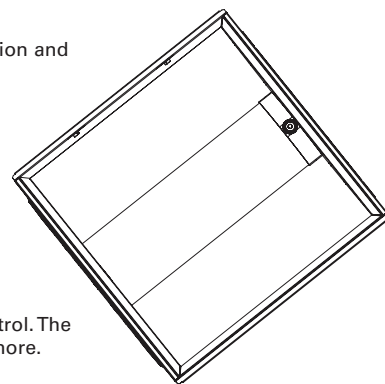
The luminaire-integrated sensor system offers out-of-the-box operation using thoughtful default settings.

Flexibility and Individual Control

When the application demands more, the sensor system has the option to make changes using a remote control. The remote allows changes from the default settings for occupancy, target light level, preset lighting levels, and more.

Cost-effective, Stand-alone Operation

With a single product to mount and a single electrical connection to make, the Metalux luminaire with an integrated sensor system saves money on the total installed cost when occupancy or daylight harvesting controls are needed. The integrated sensor system works stand-alone, without the need for additional switches and dimmers. When manual-on, manual dimming or other code-required control schemes are needed, please see the comprehensive offering of Greengate and Fifth Light solutions from Cooper Controls at www.coopercontrol.com.



Metalux Integrated Sensor Sequence of Operation

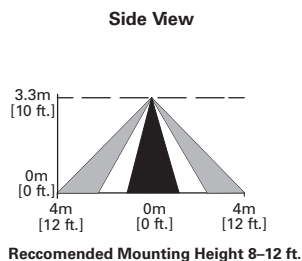
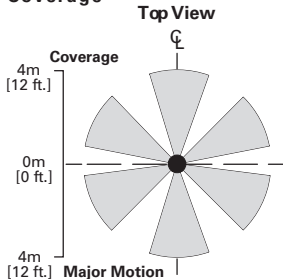
The occupancy sensing portion of the sensor uses Passive Infrared (PIR) technology with Auto-on/Auto-off operation. The small lens in the center of the sensor directs the view of a passive infrared occupancy detector to sense occupants moving through the room. To trigger the light on, an occupant must cross at least two passive infrared beams. When motion in the coverage area ceases, the sensor logic concludes the room is unoccupied, and begins a count-down timer. By default, the timer is factory-set to 20 minutes, and can be adjusted to 5, 10, 15 and 20 minutes using the optional remote control, model number HHPRG-MS. Any motion detected during the count-down timer will cause the light to remain on and resets the timer. When motion is detected, a red LED will blink. In addition to the default on/off functionality, the sensor has an Energy Saver feature, where the light can be set to dim to a preset level after the sensor detects no occupancy for half of the count-down timer, when the timer is complete the lighting will change to the unoccupied setting. The Energy Saver feature works when the count-down timer is set to at least 15 minutes, and the preset level and feature are configured using the optional remote control. See the Sensor Programming Guide that comes with the HHPRG-MS remote for details on this feature. The sensitivity of the occupancy detection can be adjusted, using the HHPRG-MS remote. By default, the sensor operates at the full detection range shown on the coverage pattern diagram. Using the “LO” button on the HHPRG-MS remote, reduces the sensor detection range by 50%. Full coverage can be restored at any time by pressing the “HI” button on the remote. The red LED indicator will blink repeatedly to confirm any programming change.

The dimming daylight harvesting portion of the sensor uses a small photo sensor located next to the occupancy sensing lens. The sensor continuously measures the available light in the room, even when the fixture is turned off. This allows sensor to operate in one of three daylighting modes, where the artificial light from the paired Metalux luminaire can adjust the light based on the amount of ambient light from surrounding natural and artificial light sources. Since the sensor measures light from its luminaire along with other light sources, this sensor follows a closed-loop dimming daylight harvesting style. The first mode, Daytime, is active when the sensor detects light of at least 100 lux in the room. In Daytime mode, when the light is turned on after detecting occupancy, the sensor will begin balancing the luminaire light level relative to the total available light it measures. The default light balancing target in daytime mode is 500 lux. This level can be adjusted higher or lower using the optional HHPRG-MS remote, and pressing “SET” and then the “DO” (Daytime Occupied) button to store the new light level. Similarly, the Daytime Unoccupied, “DU” has a default of level of 0 lux, or off, but can be adjusted higher to prevent the lights from turning off completely when unoccupied. More details on this function are found in the Sensor Programming Guide for the HHPRG-MS remote.

The next two modes, Twilight and Nighttime, function in a similar way, allowing the artificial light to adjust to different levels based on the surroundings. While primarily for use in outdoor luminaires, these modes are available for use in areas with a wide range of natural light, including atriums, day lit stairwells, and rooms with large or continuous windows. The Twilight mode is active when the sensor detects 50-100 lux in the off position, and has a 300 lux default light balancing target. The Nighttime mode is active when the sensor detects less than 50 lux, and has a 250 lux default light balancing target. Like the Daytime mode, there are separate settings for Twilight Occupied (“TO”), Twilight Unoccupied (“TU”), Nighttime Occupied (“NO”) and Nighttime Unoccupied (“NU”) which can be adjusted and set using the optional HHPRG-MS remote.

In addition to programming the sensor, the optional HHPRG-MS remote can be used for personal control to adjust the lighting temporarily override the functions of the sensor temporarily. The remote has raise/lower buttons to adjust the light level for special tasks, as well as a power button to turn the lights on or off. Unless the SET button and another function is selected, any changes made using these buttons will revert to the programmed settings after the sensor has detected no occupancy for its programmed time out, and turned off the lighting. The next time the sensor detects occupancy, it will revert to its programmed settings for count-down timer and light balancing.

Coverage



Optional Remote Control

