

DESCRIPTION

The Encounter™ redefines ambient lighting by being the first fixture to blend modern contemporary styling with the innovative WaveStream™ technology to deliver exceptional performance and superior energy savings. Encounter's highly efficient LED system with advance optical design delivers an unparalleled combination of optimal light uniformity for enhanced visual comfort and superior efficiency for greater energy savings.

Encounter is compatible with all of today's popular ceiling systems and available in a variety of configurations for application versatility. Its perfect balance of form and function make it an ideal choice for commercial office spaces, schools, hospitals, retail and other indoor ambient applications.

SPECIFICATION FEATURES

Construction

Shallow 3-1/16" deep housing is extruded aluminum frame and injected molded composite end plates. End plates are securely attached with screws for strength and rigidity and the elimination of gaps. End plates have accessory grid-lock feature for safety and convenience. Four auxiliary fixture end suspension points are provided. Large access plate for supply connection.

Controls

The Encounter 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 Encounter 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

1% with the HD option, 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 typical CRI ≤ 85. Projected life is 60,000 hours at 79% lumen output. 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.

Driver Access

Drivers can be accessed via plenum.

Finish

Durable frame has high reflectance baked matte white enamel finish for luminous uniformity.

Optics

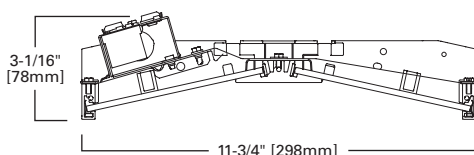
Precision formed optical assembly with positively retained high optical grade acrylic lenses provide a directed optical distribution using WaveStream technology.

Compliance

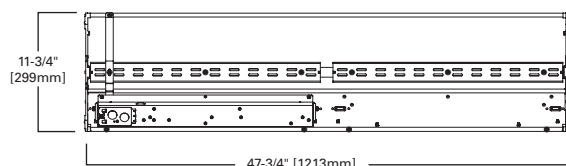
Components are UL recognized. Indoor luminaires are cULus listed for 25° C ambient environments, RoHS compliant, and comply with IESNA LM-79. LEDs comply with LM-80 standards. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.

Warranty

Five-year warranty.

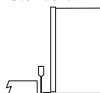


MOUNTING DATA



CEILING COMPATIBILITY

G
Grid/Lay-in
Standard



F
Drywall Frame
Kit



**Ceiling
Type**

Exposed Grid
Concealed T
Slot Grid
Flange

**Trim
Type**

G
G or T
G or T
*



**14EN
LED**

**1' X 4' TROFFER
LED MODULE**

Specification Grade Troffer



powered by
fifthlight
technology

CERTIFICATION DATA

cULus - 1598 and 2043**
Damp Location Listed
IC Rated
LM79/LM80 Compliant
ROHS Compliant
DesignLights Consortium® Qualified
NOM Compliant

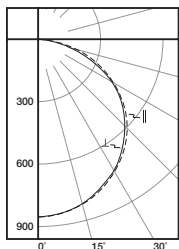
*See Drywall Frame Kit Accessory in Ordering Information section.

**Fixture construction is suitable for use in Air-handling and plenum rated spaces in accordance with Section 300.22 (C) of the National Electrical Code, Section 4.3.11.2.6.5 of NFPA 90A and Section 602.2.1.4 of ICC.

LINEAR DISCONNECT

Safe and convenient means of
disconnecting power

PHOTOMETRICS

**14EN-LD1-25-UNV-L835-CD1-U**

Electronic Driver
Linear LED 3500K

Spacing criterion:
(II) 1.3 x mounting
height, (⊥) 1.3 x
mounting height

Lumens: 2546

Input Watts: 25.0W

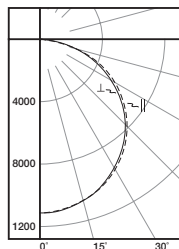
Efficacy: 101.8 LPW

Test Report:

14EN-LD1-25-UNV-
L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	850	850	850
5	849	845	850
10	839	835	840
15	822	817	822
20	799	793	796
25	770	763	765
30	735	727	727
35	695	685	682
40	650	638	632
45	600	586	580
50	545	530	525
55	485	468	461
60	420	399	396
65	349	327	327
70	273	257	241
75	194	178	158
80	116	105	118
85	46	57	55
90	0	0	0

**14EN-LD1-33-UNV-L835-CD1-U**

Electronic Driver
Linear LED 3500K

Spacing criterion:
(II) 1.3 x mounting
height, (⊥) 1.3 x
mounting height

Lumens: 3322

Input Watts: 33.3W

Efficacy: 99.5 LPW

Test Report:

14EN-LD1-33-UNV-
L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	1109	1109	1109
5	1108	1102	1110
10	1095	1089	1097
15	1074	1066	1072
20	1044	1035	1040
25	1006	996	998
30	960	949	949
35	908	893	892
40	847	833	826
45	783	764	757
50	712	692	685
55	632	611	603
60	547	522	516
65	454	428	429
70	355	335	312
75	255	235	205
80	150	137	154
85	58	75	72
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance													20%						
rc	80%				70%				50%				30%			10%			0%
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																			
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	108	103	99	95	106	101	97	93	97	94	90	93	90	88	89	87	85	83	
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69	
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	69	64	60	57	
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49	
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42	
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	50	43	39	37	
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32	
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29	
9	56	42	34	28	54	41	34	28	40	33	28	39	33	28	38	32	28	26	
10	52	39	31	25	51	38	31	25	37	30	25	36	30	25	35	29	25	23	

Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	665	26.1
0-40	1095	43.0
0-60	1969	77.3
0-90	2546	100.0
0-180	2546	100.0

Luminaire Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	2283	2229	2206
55	2275	2195	2162
65	2221	2081	2081
75	2016	1850	1642
85	1420	1759	1698

Coefficients of Utilization

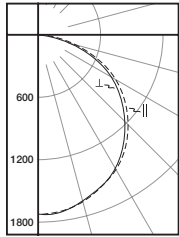
Effective floor cavity reflectance												20%									
rc	80%				70%				50%				30%				10%				0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0			
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			
1	108	103	99	95	106	101	97	93	97	94	90	93	90	88	89	87	85	83			
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69			
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	69	64	60	57			
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49			
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42			
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	50	43	39	37			
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32			
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29			
9	56	42	34	28	54	41	34	28	40	33	28	39	33	28	38	32	28	26			
10	52	39	31	25	51	38	31	25	37	30	25	36	30	25	35	29	25	23			

Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	868	26.1
0-40	1429	43.0
0-60	2570	77.3
0-90	3322	100.0
0-180	3322	100.0

Luminaire Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	2979	2906	2880
55	2964	2866	2828
65	2890	2724	2731
75	2650	2442	2131
85	1790	2315	2222

**14EN-LD1-51-UNV-L835-CD1-U**

Electronic Driver
Linear LED 3500K

Spacing criterion:
(II) 1.3 x mounting
height, (⊥) 1.3 x
mounting height

Lumens: 5165

Input Watts: 56.3W

Efficacy: 91.7 LPW

Test Report:

14EN-LD1-51-UNV-
L835-CD1-U.IES

Candlepower

Angle	Along II	45°	Across ⊥
0	1726	1726	1726
5	1722	1716	1726
10	1702	1695	1704
15	1668	1659	1668
20	1622	1610	1617
25	1562	1548	1553
30	1491	1475	1475
35	1409	1390	1386
40	1319	1294	1283
45	1215	1188	1178
50	1105	1075	1061
55	983	950	934
60	849	812	802
65	707	666	664
70	551	520	482
75	391	362	316
80	232	216	240
85	91	116	114
90	0	0	0

Coefficients of Utilization

Effective floor cavity reflectance													20%						
rc	80%				70%				50%				30%			10%			0%
rw	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																			
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	
1	108	103	99	95	106	101	97	93	97	94	90	93	90	88	89	87	85	83	
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69	
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	69	64	60	57	
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49	
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42	
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	50	43	39	37	
7	64	50	41	35	62	50	41	35	48	40	35	47	40	35	45	39	34	32	
8	60	46	37	31	58	45	37	31	44	36	31	43	36	31	41	35	31	29	
9	56	42	34	28	54	41	34	28	40	33	28	39	33	28	38	32	28	26	
10	52	39	31	25	51	38	31	25	37	30	25	36	30	25	35	29	25	23	

Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	1350	26.1
0-40	2223	43.0
0-60	3996	77.4
0-90	5165	100.0
0-180	5165	100.0

Luminaire Data

Angle in Deg	Average 0-Deg cd/sm	Average 45-Deg cd/sm	Average 90-Deg cd/sm
45	4622	4519	4481
55	4610	4455	4380
65	4500	4239	4226
75	4064	3762	3284
85	2809	3580	3519

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 hours)	Theoretical L70 (Hours)
25°C	> 79%	> 101,000

ENERGY AND PERFORMANCE DATA BY CATALOG NUMBER

Stock or MTO*	Catalog Logic (Curved)	Delivered Lumens	Watts	Efficacy (LPW)
MTO	14EN-LD1-18-UNV-L830-CD1-U	1826	18.3	100
MTO	14EN-LD1-18-UNV-L835-CD1-U	1867	18.3	102
MTO	14EN-LD1-18-UNV-L840-CD1-U	1933	18.3	106
MTO	14EN-LD1-18-UNV-L850-CD1-U	2045	18.3	112
MTO	14EN-LD1-25-UNV-L830-CD1-U	2491	25.0	99
MTO	14EN-LD1-25-UNV-L835-CD1-U	2546	25.0	102
MTO	14EN-LD1-25-UNV-L840-CD1-U	2637	25.0	105
MTO	14EN-LD1-25-UNV-L850-CD1-U	2789	25.0	112
MTO	14EN-LD1-28-UNV-L830-CD1-U	2826	28.6	99
MTO	14EN-LD1-28-UNV-L835-CD1-U	2889	28.6	101
MTO	14EN-LD1-28-UNV-L840-CD1-U	2992	28.6	105
MTO	14EN-LD1-28-UNV-L850-CD1-U	3165	28.6	111
MTO	14EN-LD1-33-UNV-L830-CD1-U	3250	33.4	97
MTO	14EN-LD1-33-UNV-L835-CD1-U	3322	33.4	99
MTO	14EN-LD1-33-UNV-L840-CD1-U	3440	33.4	103
MTO	14EN-LD1-33-UNV-L850-CD1-U	3639	33.4	109
MTO	14EN-LD1-38-UNV-L830-CD1-U	3789	40.8	93
MTO	14EN-LD1-38-UNV-L835-CD1-U	3874	40.8	95
MTO	14EN-LD1-38-UNV-L840-CD1-U	4011	40.8	98
MTO	14EN-LD1-38-UNV-L850-CD1-U	4243	40.8	104
MTO	14EN-LD1-43-UNV-L830-CD1-U	4269	46.7	91
MTO	14EN-LD1-43-UNV-L835-CD1-U	4364	47.0	93
MTO	14EN-LD1-43-UNV-L840-CD1-U	4519	46.8	97
MTO	14EN-LD1-43-UNV-L850-CD1-U	4780	47.0	102
MTO	14EN-LD1-47-UNV-L830-CD1-U	4599	50.5	91
MTO	14EN-LD1-47-UNV-L835-CD1-U	4702	50.5	93
MTO	14EN-LD1-47-UNV-L840-CD1-U	4869	50.5	96
MTO	14EN-LD1-47-UNV-L850-CD1-U	5150	50.5	102
MTO	14EN-LD1-51-UNV-L830-CD1-U	5052	56.3	90
MTO	14EN-LD1-51-UNV-L835-CD1-U	5165	56.3	92
MTO	14EN-LD1-51-UNV-L840-CD1-U	5348	56.3	95
MTO	14EN-LD1-51-UNV-L850-CD1-U	5657	56.3	100

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

ORDERING INFORMATION

SAMPLE NUMBER: 14EN-LD1-33-UNV-L835-CD1-SVPD1-U

Rating Blank=Standard ATW-SW4=Chicago Rated ⁽⁷⁾	Lamp Type LD1=LED 1.0	Optics Blank=Standard	Driver Type CD=0-10V Dimming Driver (10% - 100% Dimming) HCD=0-10V Dimming Driver (1% - 100% Dimming) SD=Step-dim Driver ⁽⁴⁾ 5LTD=Fifth Light DALI Driver (10% - 100% Dimming) ^{(2), (4)} 5LTHD=Fifth Light DALI Driver (1% - 100% Dimming) ⁽²⁾	Number of Drivers 1=1 Driver
Series ⁽⁸⁾ 14EN=1' x 4' Encounter Series	MTO Lumen Outputs ⁽⁶⁾ 18=1800 Lumens 25=2500 Lumens 28=2800 Lumens 33=3300 Lumens 38=3800 Lumens 43=4300 Lumens 47=4700 Lumens 51=5100 Lumens	Voltage ⁽¹⁾ 347V=347 Volt ⁽⁵⁾ UNV=Universal Voltage 120-277		
Air [Blank]=Standard A=Air (Vented) ⁽⁹⁾		Options Emergency EL7W=7-watt, 120V-277V emergency battery pack installed ⁽³⁾ EL14W=14-watt 120V-277V emergency battery pack installed ⁽³⁾ GTD2=Bodine Generator Transfer Device ⁽¹²⁾ ETS2=IOTA Emergency Transfer Switch ⁽¹²⁾ CCT L830=3000K L835=3500K L840=4000K L850=5000K Flex ⁽¹¹⁾ Multiple Configurations Available		

Product Family S=Integrated Sensor	Occupancy Technology P=Passive Infrared	Sensing Technology D=Dimming Daylight Harvesting (Closed Loop)	Coverage Pattern 1= ~144 Square Feet	Packaging U=Unit Pack PALC=Job Pack, in carton
Control Type B=Sensor Mounting, No Sensor V=Analog (0-10V) Output for Local Control ⁽¹⁰⁾				

ACCESSORIES

T3A END E.Q. BRACKET PARTS BAG (Standard with fixture)
DF-14-W=1' x 4' Drywall Frame Kit
MS-SR-14=1' x 4' Surface Mount Kit
DF10P-C_=Decorator Dimmer, 0-10V
SF10P-_=Decorator Slide Dimmer, 0-10V
HHPRG-MS=Programming Remote for Integrated Sensor
ISHH-02=Personal Control Remote for Integrated Sensor

NOTES: ⁽¹⁾ Products also available in non-US voltages and frequencies for international markets. ⁽²⁾ Must be used in conjunction with a DALI control system. For complete DALI solutions by Fifth Light, visit www.eaton.com/lightingsystems ⁽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⁾ 1800, 2500, 2800 and 3300 lumen packages not available with Step-dim or 5LTD option. ⁽⁵⁾ 347V emergency option not available. ⁽⁶⁾ Made-to-order (MTO) requires four week lead time. ⁽⁷⁾ Chicago rated version does not allow for row mounting. ⁽⁸⁾ DesignLights Consortium™ Qualified and classified for DLC Standard (all lumen packages), refer to www.designlights.org for details. ⁽⁹⁾ Air version is vented but does not meet air handling requirements; a 6% reduction in delivered lumens is experienced with this option. ⁽¹⁰⁾ Integral sensor works only with "CD" driver and is factory prewired to the driver for stand-alone control. ⁽¹¹⁾ Flex does not include dimming leads. Control leads provided by others ⁽¹²⁾ Used to transfer fixture to secondary power source for life-safety operation. When used with a dimming fixture, two devices are required to ensure control is disabled while operating under emergency power.

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

SHIPPING DATA

Catalog No.	Wt.
14EN-LD1-33	15 lbs.

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

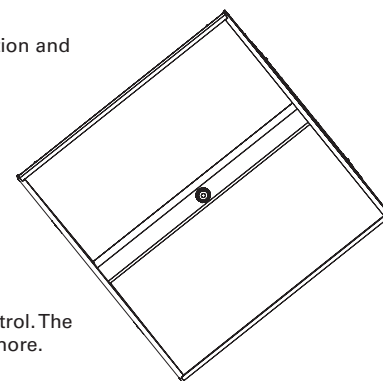
The luminaire-integrated sensor system offers out-of-the-box operation using thoughtful default settings.

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

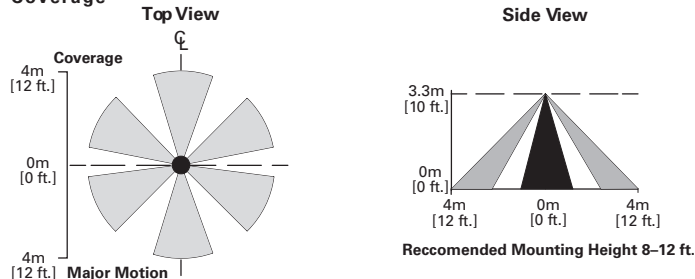
The occupancy sensing portion of the sensor uses Passive Infrared (PIR) technology with Auto-on/Auto-off operation. The small lens in the center of the sensor directs the view of a passive infrared occupancy detector to sense occupants moving through the room. To trigger the light on, an occupant must 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

