

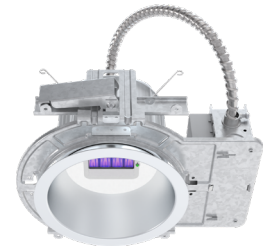
PURO Protect 222 Round Downlight 6"

OVERVIEW

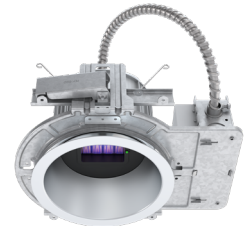
Feature Set

- Visible light integrated with filtered far-UVC 222nm light module in Hybrid and UV-only solutions
- One piece self-flanged trim construction; flangeless (FL) optional
- 65° cutoff to source and source image
- 90+ CRI optional
- Medium Wide 1.0 S:MH distribution standard
- Fixtures are damp location listed
- Available with 1% dimming

Distribution



PPDN 222H



PPDN 222

COMPLEMENTARY PRODUCTS

Coordinated Apertures | Multiple Layers of Light



PPD New Construction Downlight with Care222



PPD 6" Remodel Downlight with Care222



PPD 7" Remodel Downlight with Care222

PROTECT 222



Downlight
New Construction



Downlight
6" Remodel



Downlight
7" Remodel



Cylinder
Wall Mount



Cylinder
Pendant Mount



Cylinder
Surface Mount

Luminaire Type:
Catalog Number:

EXAMPLE: PPDN 222H A090 30 10 CL SF SS MVOLT D01 NC 90

Series	Wavelength ¹	Programming Options	Color Temperature ²	Nominal Lumen Values ³	Reflector & Flange Color	Trim Style	Finish	Voltage	Driver ¹	Control Interface	Options
PPDN 6in New Construction Round Downlight	222 ³ 222nm UV module only (no visible light)	A090 Dose Level for 108 inch (min) to 113.9 inch (max) Height from Floor to Module Face	30 3000 K	10 1000 Lumens	CL Clear	SF Self-flanged	SS Semi-specular	UNV	D01 0-10V driver dims to 1%	NC No Controls	NO No Options
	222H Visible light integrated with 222nm UV module	B095 Dose Level for 114 inch (min) to 119.9 inch (max) Height from Floor to Module Face	35 3500 K	15 1500 Lumens		FL Flangeless. For use in dry wall ceilings only.		120	LHL ³ Lutron® Hi-Lume® 2-wire forward-phase driver.		90 ⁴ High CRI (90+)
		C100 Dose Level for 120 inch (min) to 125.9 inch (max) Height from Floor to Module Face	40 4000 K						120v only. Minimum dimming level 1%. Min: 1000LM; Max: 1500LM		
		D105 Dose Level for 126 inch (min) to 131.9 inch (max) Height from Floor to Module Face									
		E110 Dose Level for 132 inch (min) or Greater Height from Floor to Module Face									

Programming Option	Mounting Height to Module Face	Mounting Height to Fixture Aperture
A090	Minimum 9' AFF to 9' 5" AFF	Minimum 8' 9" AFF to 9' 2" AFF
B095	Minimum 9' 6" AFF to 9'-11" AFF	Minimum 9' 3" AFF to 9'-8" AFF
C100	Minimum 10' AFF to 10' 5" AFF	Minimum 9'-9" AFF to 10'-2" AFF
D105	Minimum 10'-6" AFF to 10'-11" AFF	Minimum 10'-3" AFF to 10'-8" AFF
E110	Minimum 11' AFF and above	Minimum 10'-9" AFF and above

AFF: Above Finished Floor

ORDERING NOTES

- Visible light of 222H versions only suitable for dimming. For a list of compatible drivers please contact PURO Lighting.
- Color Temperature/Nominal Lumen Values available for 222H version only.
- Not available with Finish options.
- Not available for UV222 module only version.

UV Disinfection*

Care222[®] UV disinfection technology limits the reproduction of pathogens¹ by utilizing 222nm wavelengths to inactivate viruses and bacteria by disrupting the DNA/RNA.

Care222 technology operates continually and meets exposure guidelines for occupied space established by the American Conference of Governmental Industrial Hygienists (ACGIH[®])². Occupants can be present in the space, during treatment, when installed and used in accordance with written instructions.

UV Lamp Module Source

Care222[®] mercury-free far-UVC excimer lamp. Emits a soft violet glow from 1.75" x 2.38" [44.5mm x 60.3mm] opening when powered.

UV Filter

Patented short pass filter for narrow band 222nm emission that removes longer wavelengths that can penetrate the living tissue in skin or beyond the top layer of the cornea in the eyes.

UV Wavelength

Emitted Wavelength Range is 200nm ~ 230nm with Peak Wavelength at 222nm far-UVC.

UV Lamp Module Run Time

Requires no external controls or startup commissioning. UV lamp module will operate on 12-minute cycles for a duration of between 10 and 50 seconds each cycle. The duration will depend on the specific dose chosen to meet the application design requirements.

UV lamp rated for 11000 hours (approximately 5 years of life based on activated hours).³

Optical Assembly

65° cutoff to source and source image.

Top-down flash characteristic for superior glare control.

Unitized optics have mechanical attachment of the light engine to the lower reflector for optical alignment.

Medium Wide 1.0 S:MH distribution standard.

Electrical

The luminaire operates from a 50 or 60 Hz ±3 Hz AC line over a voltage ranging from 120 VAC to 277 VAC.

Power factor > 0.9.

Requires unswitched leg for UVC module. Single circuit; not intended for use with wall switches. Connect to an unswitched circuit intended for 24/7/365 continuous operation.

Dimming

The luminaire is capable of continuous dimming without perceivable stroboscopic flicker as measured by flicker index (ANSI/IES RP-16-10) over a range of 100 – 1.0% of rated lumen output with a smooth shut off function to step to 0%.

Driver is inaudible in 24dB environment, and stable when input voltage conditions fluctuate over what is typically experienced in a commercial environment.

Construction

Luminaire housing is constructed of 16-gauge galvanized steel and has preinstalled telescopic mounting bars with maximum 32" and minimum 15" extension and 4" vertical adjustment.

Luminaires are suitable for installation in ceilings up to 1½" thick. (specify ceiling thickness adapter to extend frame to accommodate ceiling thickness up to 5").

Tool-less adjustments are possible after installation.

25°C ambient temperature standard (1/2" clearance on all sides from non-combustible materials in non-IC applications, unless marked spacing noted otherwise). For use in insulated ceilings, a 3" clearance on all sides from insulation is required (unless marked spacing noted otherwise).

Listings

UL listed and certified to meet US standards for LED luminaires and germicidal equipment for use in occupied spaces.

Meets California ozone emissions limits. California Air Resources Board (CARB) certified. Damp location listed.

Disclaimer

*All references to "disinfection" are referring generally to bioburden reduction and are not intended to refer to any specific definition of the term as may be used for other purposes by the U.S. Food and Drug Administration or the U.S. Environmental Protection Agency. Bioburden reduction is a function of fixture run time and the distance to the UV light source, airflow, room size, shadow areas and/or other factors, and the level of reduction will vary within a specific space. This fixture is [these fixtures are] not intended for use in the cure, mitigation or prevention of disease and is not certified or approved for use as for the disinfection of medical device[s] by the FDA. It is the obligation of the end-user to consult with appropriately qualified Professional Engineer(s), a Certified Infection Control professional and a Certified Industrial Hygienist, as applicable, to determine whether this fixture meets [these fixtures meet] the applicable requirements for system performance, code compliance, safety (including safety and hazard alerting signs), suitability and effectiveness for use in a particular application design.

For sale only in the United States of America and Mexico.

1. Reference pages 4-6 of this document under Projected Virus Inactivation and Projected Bacteria Inactivation
2. ACGIH[®] 2021 TLVs[®] and BEIs[®] - Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices; when installed and used in accordance with written instructions.
3. Average rated life based on industry standard measurements and not a performance claim specific to any individual product.

Registration

EPA Est. No.: 97727-IN-1

Precautionary Statements

- Emitters used in this fixture are in the EXEMPT RISK GROUP for photobiological risk, as described in IEC 62471, when correctly commissioned and properly installed in accordance with written instructions.
 - See Installation Instructions for proper usage guidelines and warnings regarding risks resulting from misuse.
- See below for information about potential limited photodegradation of materials.
- This fixture may generate ozone. Each emitter in the fixture has an ozone emission maximum concentration of 0.001 ppm over an 8-hour period, as tested in accordance with UL 867. Precautions that can be taken, if needed, to ensure that ozone concentration stays within applicable permissible exposure limits are described in the Installation Instructions.

Buy American Act

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations.

Photometrics

LEDs tested to LM-80 standards in an accredited lab. Measured in accordance with LM-79-08 IESNA standard. Extrapolated life calculated per IESNA TM-21-21. 70% Lumen maintenance at 60,000 hours. Color variation <2.5-step MacAdam ellipse (2.5SDCM).

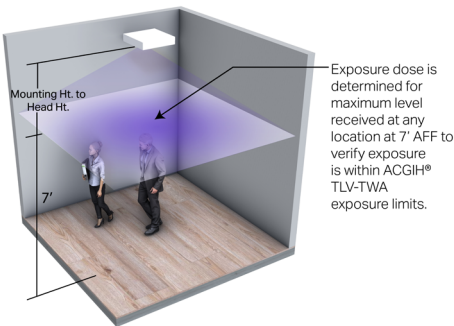
Warranty

2-year limited warranty for Hybrid (H) and UV Module only versions. These are the only warranties provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed.

Note:

Actual performance may differ as a result of end user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

Projected UV Exposure and Exposure Limits



This chart illustrates mounting height configurations for the PURO Protect 222 PPCM fixture, incorporating Care222® technology, that provide a UV exposure within the exposure guidelines established and published by the American Conference of Governmental Industrial Hygienist (ACGIH®). The PURO Protect 222 system has been evaluated and certified to UL 8802, which uses the IEC 62471 standard for determining the maximum exposure a typical worker can be exposed to without adverse health effects. For the UV exposure dose to remain within the ACGIH® guidelines and to meet the current UL safety requirements, the PURO Protect 222 system is designed to not exceed a maximum exposure dose of 22.87 mJ/cm² (millijoules per square centimeter) for an 8-hour period. Per the UL 8802 standard, the upper limit of occupied space is defined to be a test plane 7' Above Finished Floor (AFF). This calculated maximum exposure dose represents the dose an individual would receive over an 8-hour period at 7' Above Finished Floor (AFF) even if stationary in the location of maximum dose. The levels of exposure in the ACGIH guidelines are quantified as Threshold Limit Values (TLVs®) and are expressed as Time-Weighted Averages (TWAs). The TLVs for incoherent ultraviolet (UV) radiation are established for wavelengths between 180 and 400nm and represent conditions under which it is believed that nearly all healthy workers may be repeatedly exposed without acute adverse health effects such as erythema and photokeratitis. ACGIH guidelines are designed for use by industrial hygienists in making decisions regarding safe levels of exposure to hazards in the workplace.

¹ ACGIH® 2021 TLVs® and BEIs®. Based on the documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure indices.

1000LM-1500LM Standard

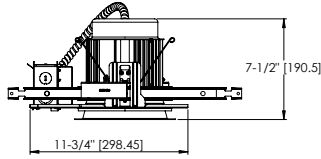
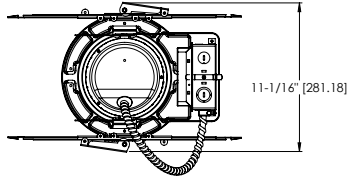
Aperture: 6 1/4" [15.9]

Ceiling Opening: 7 1/8" [18.1] self-flanged

Overlap Trim: 7 1/2" [19.1]

7 1/4" [18.4] flangeless

*Dimensions in inches [centimeters]



Module Regression in Trim

