








# 365DisInFx™ UVA Lighting Design

Recommended Practices and Application Guidelines

## UVA Products Covered in This Guide:

LBU Series, LDU Series, AVU Series with catalog logic "AD"

	Voltage	Size	Lumens	Color Temp	Efficiency	CRI	Control & Sensors	Additional Technology
<b>UVA Products</b>								
 LBU Series	120V or 277V	2'x2'	2,000–4,000	3,500K, 4,000K	Up to 81 LPW	80	0–10V Dimming	365DisInFx™ Technology White Antimicrobial Paint
 LBU Series	120V or 277V	2'x4'	2,000–6,000	3,500K, 4,000K	Up to 81 LPW	80	0–10V Dimming	365DisInFx™ Technology White Antimicrobial Paint
 LBU Series	120V or 277V	1'x4'	2,000–4,000	3,500K, 4,000K	Up to 81 LPW	80	0–10V Dimming	365DisInFx™ Technology White Antimicrobial Paint
 AVU Series	120V or 277V	4'	2,000–4,000	3,500K, 4,000K	Up to 100 LPW	80	0–10V Dimming	365DisInFx™ Technology White Antimicrobial Paint
 LDU Series	120V or 277V	6"/8"	1,000–4,000	3,500K, 4,000K	Up to 52 LPW	80	0–10V Dimming	365DisInFx™ Technology White Antimicrobial Paint

### 365DisInFx™ UVA Ordering Number Logic:

Family	Fixture Type	Generation	Voltage	Nominal Lumens	Distribution	AD UV	CR/CRT	Controls	Mounting	Finish
LBU AVU LDU						AD = All Day Continuous				

## Recommended Practices and Application Guidelines

### What does this guide cover?

- **365DisInFx™ UVA technology** fixtures with \*AD\* catalog logic—when not marked with a minimum mounting height, they fall under the exempt, risk group 0 in IEC 62471, *Photobiological Safety of Lamps and Lamp Systems*, with no restrictions on application. When marked with a minimum mounting height (per UL1598), they meet the exempt UV output, risk group 0 levels of IEC62471 at 7 ft. above the floor, when installed at or above the minimum mounting height, and following the fixture spacing guidelines in this document.
  - **Definition of risk groups:** IEC 62471 classifies the photobiological risk of light sources into risk groups 0, 1, 2 and 3 (from 0 = no risk through to 3 = high risk). The photobiological safety is measured at a distance of 200 millimeters from the light source. After proper evaluation, a light source is given a risk group (RG) classification, which indicates whether the source presents a risk and, if so, what labeling requirements should be undertaken to alert the user or other protection measures required. A luminaire employing a light source classified RG0 requires no warning or caution.

### Application Considerations for UVA

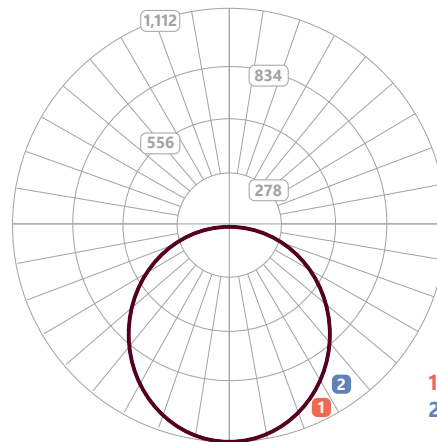
- Disinfection performance is correlated to the duration of UV disinfection fixture use per day and meeting target average irradiances on surfaces to be disinfected via lighting layouts.
- To provide disinfection, the UV light must hit the surface to be disinfected—shadowed areas will not be effectively disinfected.

## How to use UVA IES Files

- Separate white light and UVA output IES files are provided for 365DisInFx™ UV disinfection fixtures. For 365DisInFx™ product information, visit [365DisInFx.com](http://365DisInFx.com).
- The UV wattage output is shown in the Lumens category of the UV IES file and has an associated distribution, similar to a white light IES file.

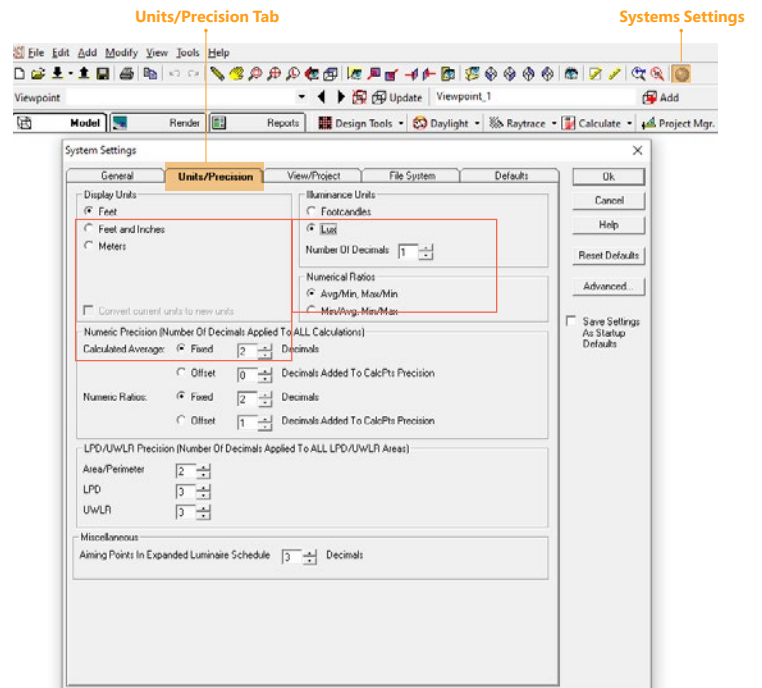


## Polar Graph



## Set up AGi32 and UV Calc Zones

- **Change Illuminance Units to LUX in AGi32.**
  - LUX calculates Lumens/m<sup>2</sup> for a white light IES file.
  - **When using a 365DisInFx™ UVA IES file, it will generate UVA watts in the lumen output, so LUX will represent UVA W/m<sup>2</sup>**
- **Display units can remain in “feet,”** or the room and fixture dimensions may need to be rescaled .
- **Use equivalent calc grid heights** to match the display units (feet or meters) of your design.
- **Calc grid spacing should be set to 0.25m x 0.25m** (0.82 ft x 0.82 ft)



## UVA Target Levels and Design Details

- Common indoor materials have low reflectance in the UVA range; **use 1% reflectance for all room surfaces** on rendered calculations, and utilize direct calc results when possible.
- UV fixtures should use **1.0 LLF**.
- **365DisInFx™ UVA technology:** The target disinfection irradiance levels start at **0.25W/m<sup>2</sup>** and the desired average irradiance at the surface to be disinfected is **0.5W/m<sup>2</sup>** for \*AD\* fixture type.
- Highlight UV 1M calc points below 0.25W/m<sup>2</sup>.

UV Calc (W/m<sup>2</sup>)



0.23	0.40	0.57	0.62	0.57	0.59	0.66	0.66	0.58	0.57	0.62	0.56	0.39	0.22
0.28	0.48	0.68	0.74	0.69	0.71	0.79	0.79	0.70	0.69	0.73	0.67	0.48	0.27
0.30	0.51	0.71	0.78	0.74	0.76	0.84	0.83	0.75	0.74	0.78	0.70	0.49	0.29
0.32	0.54	0.76	0.83	0.78	0.80	0.89	0.88	0.79	0.78	0.82	0.75	0.52	0.30
0.33	0.56	0.77	0.84	0.80	0.83	0.91	0.91	0.82	0.80	0.84	0.76	0.53	0.32
0.33	0.55	0.76	0.83	0.80	0.82	0.91	0.90	0.82	0.79	0.83	0.75	0.53	0.32
0.33	0.56	0.79	0.86	0.81	0.83	0.92	0.92	0.82	0.81	0.85	0.77	0.54	0.32
0.34	0.57	0.79	0.86	0.82	0.84	0.92	0.92	0.83	0.82	0.85	0.77	0.54	0.33
0.33	0.55	0.77	0.83	0.80	0.82	0.91	0.90	0.82	0.80	0.83	0.75	0.53	0.32
0.33	0.56	0.78	0.85	0.80	0.82	0.91	0.91	0.81	0.80	0.84	0.76	0.53	0.31
0.33	0.55	0.76	0.83	0.79	0.82	0.89	0.89	0.80	0.79	0.82	0.75	0.52	0.31
0.31	0.52	0.72	0.79	0.75	0.76	0.84	0.84	0.76	0.74	0.78	0.71	0.50	0.29
0.28	0.48	0.69	0.74	0.70	0.72	0.80	0.79	0.71	0.69	0.74	0.67	0.47	0.27
0.24	0.42	0.59	0.64	0.60	0.62	0.69	0.69	0.61	0.60	0.64	0.58	0.40	0.23

White Light Calc LUX (Lumens/m<sup>2</sup>)

346	486	632	876	637	651	719	718	647	635	670	620	470	332
395	541	701	751	714	729	797	794	726	708	745	686	523	376
416	562	715	769	738	753	819	815	750	735	760	702	542	396
426	581	746	798	763	779	851	848	775	761	791	729	562	409
438	591	753	809	773	792	862	861	788	769	801	739	570	417
439	587	744	795	768	782	848	845	779	764	789	726	566	418
441	595	759	814	774	795	865	863	790	771	803	742	572	420
443	596	759	816	784	798	867	865	794	774	804	742	575	422
439	587	744	795	769	788	848	845	779	764	789	726	566	418
436	590	752	808	769	769	862	860	784	766	800	738	568	416
431	583	748	800	768	784	853	851	779	764	793	730	564	411
416	583	716	771	740	754	820	817	750	736	761	702	543	396
394	541	702	751	712	728	797	794	722	710	744	685	521	375
351	489	634	678	642	656	722	720	651	639	672	621	473	334

ICU  
28 FT x 28 FT  
CEILING HEIGHT IS 10 FT  
WORKPLANE HEIGHT IS 1M  
REFLECTANCES ARE SIMULATED AT 1% FOR UV  
REFLECTANCES ARE SIMULATED AT 80/50/20 FOR WHITE LIGHT

## AGi32 Summary Output Fixtures With 365DisInFx™ UVA Technology

Luminaire Schedule							
Symbol	Qty.	Label	Description	Lum. Watts	Lum. Lumens	LLF	Total Watts
	15	LBU22-AD-WHITE-330	Normal Visible White Light Output File	44.6	3,419	1.000	669
	15	LBU22-AD-UV	24HR UVA Disinfection Output	44.6	4	1.000	669

Luminaire Lumens in UV IES file represent 4W of UV output

Calculation Summary							
Label	Calc Type	Units	Avg.	Max	Min.	Avg./Min.	Max/Min.
ICU White Light_Workplane	Illuminance	Lux	514.77	719	175	2.94	4.11
ICU UV Disinfection_at 1M	Illuminance	Lux	0.66	0.94	0.21	3.14	4.48

Target average irradiance for UVA fixtures on workplane: 0.5W/m<sup>2</sup>

LUX Illuminance results represent W/m<sup>2</sup> in UV calculations



## ⚠ CAUTION

### UVA

In application, products with 365DisInFx™ UVA technology (\*AD\* in catalog logic) must follow the below guidelines on spacing and mounting height.

- AD fixtures without a minimum mounting height should not be installed where a person will be within 20cm (8") of the luminaire.
- AD fixtures with a labeled minimum mounting height should be installed at or above the specified minimum mounting height, per UL 1598.
- AD fixtures should not be installed at a spacing closer than specified in the table below.
- If minimum mounting height or spacing requirements are violated, there is a risk of UV overexposure. Exceeding recommended parameters will negatively impact disinfection efficacy.

Fixture	End to End spacing (distance between fixtures, lengthwise)	Side by side spacing (distance between fixtures)	Minimum mounting height above floor
AVU	None	2.5'	None
LBU14	None	1'	None
LBU22	1'	1'	None
LBU24	1'	1'	None
LDU	3'	3'	8.5'

## Make an Informed Decision

- UV radiation can pose a risk of personal injury. Overexposure can result in damage to eyes and bare skin. To reduce risk of overexposure, equipment must be installed in accordance with manufacturer's site planning and application recommendations, including minimum ceiling height restrictions.
- UV solutions are intended for common high traffic spaces and not recommended for dwellings or home use.
- Installation of the devices should be performed by qualified professionals as detailed in Current's installation guide.
- To allow for occupancy during use, Current products comply with IEC 62471 – Photobiological Safety of Lamps and Lamp Systems standards and American Conference of Governmental Industrial Hygienists (ACGIH®) TLVs® guidelines when installed as directed.
- Current's UV products are meant to be used in conjunction with other protective measures like manual cleaning and the use of proper PPE. They are not a substitute for other measures.
- Current products are not intended for use as a medical device.
- If combining two or more UV solutions, whether from GE Current, a Daintree company and/or other manufacturers, please consult a trained product application representative to ensure the total irradiance (UV dose) does not exceed recommended human exposure limits. To the extent UV solutions are combined, it may impact deactivation rates.

### QUESTIONS?

Contact: [apps@gecurrent.com](mailto:apps@gecurrent.com)

Sales Team and Agents: Submit Application Design Requests Through E\*Light or Salesforce.com Opportunities.



For more information about 365DisInFx™ technology, visit [365DisInFx.com](http://365DisInFx.com).



[www.gecurrent.com](http://www.gecurrent.com)

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