

Ultraviolet and Visible Light Output of North Light HID Copy Lights

Measured at the University of California Berkeley Art Museum by Ben Blackwell and Mary O'Connor, using an Elsec UV Monitor Type 762 and Spectra incident light meter. March 19, 2004

UV Output from one 900 Watt North Light HID copy light at 90 degrees to flat subject

Distance	front panel composition	ultraviolet
7 feet / 2 meters	Stock clear lenticular plastic	47 μ W/lumens
7 feet / 2 meters	Stock clear panel with Lee polarizing filter	25 μ W/lumens
7 feet / 2 meters	White translucent lenticular plastic	12 μ W/lumens

Readings at copy stage for two 900 Watt HID North Lights with stock clear front panels at 45 degrees

Distance	footcandles	lux	ultraviolet
6 feet / 1.8 meters	669	7202	67 μ W/lumens
7 feet / 2.1 meters	539	5803	67 μ W/lumens
8 feet / 2.4 meter	424	4565	65 μ W/lumens

Readings at copy stage for two 900 Watt HID North Lights with translucent white front panels at 45 degrees

Distance	footcandles	lux	ultraviolet
6 feet / 1.8 meters	318	3423	14 μ W/lumens
7 feet / 2.1 meters	262	2810	12 μ W/lumens
8 feet / 2.4 meters	203	2196	7 μ W/lumens

Museum standards require that ultraviolet levels be less than 75 μ W/Lumens, the average for tungsten filament bulbs (not tungsten halogen or quartz lights which often emit UV in the 150 μ W/lumen range). The North Light copy lights, like other HID or CD lights we have measured, show UV levels within the admissible range, even with the stock clear plastic front panels. At the Berkeley Art Museum we sometimes use white translucent panels which give a more diffuse quality of light, reducing the visible light by about half (one stop) and the UV by 3/4 or more. Polarizing filters over the lights seem to reduce the UV levels by half. Although we didn't test the material, UF3 Plexiglas should reduce the UV output to practically zero.

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Berkeley Art Museum/Pacific Film Archive

