

Radio frequency Electromagnetic (RF) Measurements

Background

KPKJ has been constructed on an existing communications site shared by other broadcasters. On July 3, 2008, CSN International (CSN) completed construction of the KPKJ facility. Due to problems with test equipment availability, CSN was unable to measure site RF at that time. Testing was commenced on July 7, 2008 in concordance with the FCC Construction Permit for KPKJ.

Test Procedures

On July 7, 2008, Phil Jennings and Jim Motshagen, Engineers for CSN, used CSN's Narda NBM-520 Meter (Calibrated 04-14-08) and EF0391 Probe (Calibrated 04-22-08) measurement equipment to evaluate radio frequency exposure compliance at the KPKJ transmitter site. In performing the measurements, Mr. Jennings slowly walked from the base of the pole the KPKJ antenna is mounted to out approximately 100m from the pole along eight azimuths, terrain permitting. As he walked, he slowly moved the probe between 2 and 8 feet above ground, and from side to side, seeking, and noting, the highest "overall" readings. In addition to the eight azimuths, Mr. Jennings also investigated any areas that appeared to have the potential for higher readings.

Discussion

RF levels at the KWRK tower site are considerably less than the "worst case" scenario outlined in the KWRK Technical Exhibit (attached .pdf). Upon taking readings of the site prior to powering up the KPKJ transmitter, the highest level noted was only .0009 mW/square cm (.45% of the .2 mW/square cm uncontrolled/public exposure limits of OET-65). This reading was taken right in between the KWRK tower and the K44BB tower site – approximately 90 meters away. Readings around the KWRK tower itself never exceeded .0004 mW/square cm (.2% of the uncontrolled/public .2 mW/square cm exposure limits of OET-65). As can be seen on the attached study form, the highest reading found from all facilities including KPKJ was 58% of the uncontrolled/public exposure limits of OET-65. These results are within the FCC guidelines for human exposure to RF fields.

Conclusion

The measurements indicate that both KPKJ and other co-located facilities comply with the radiofrequency exposure limits of OET-65. Therefore, CSN respectfully requests that Program Test Authority be granted.

KPKJ Facilities RF Readings

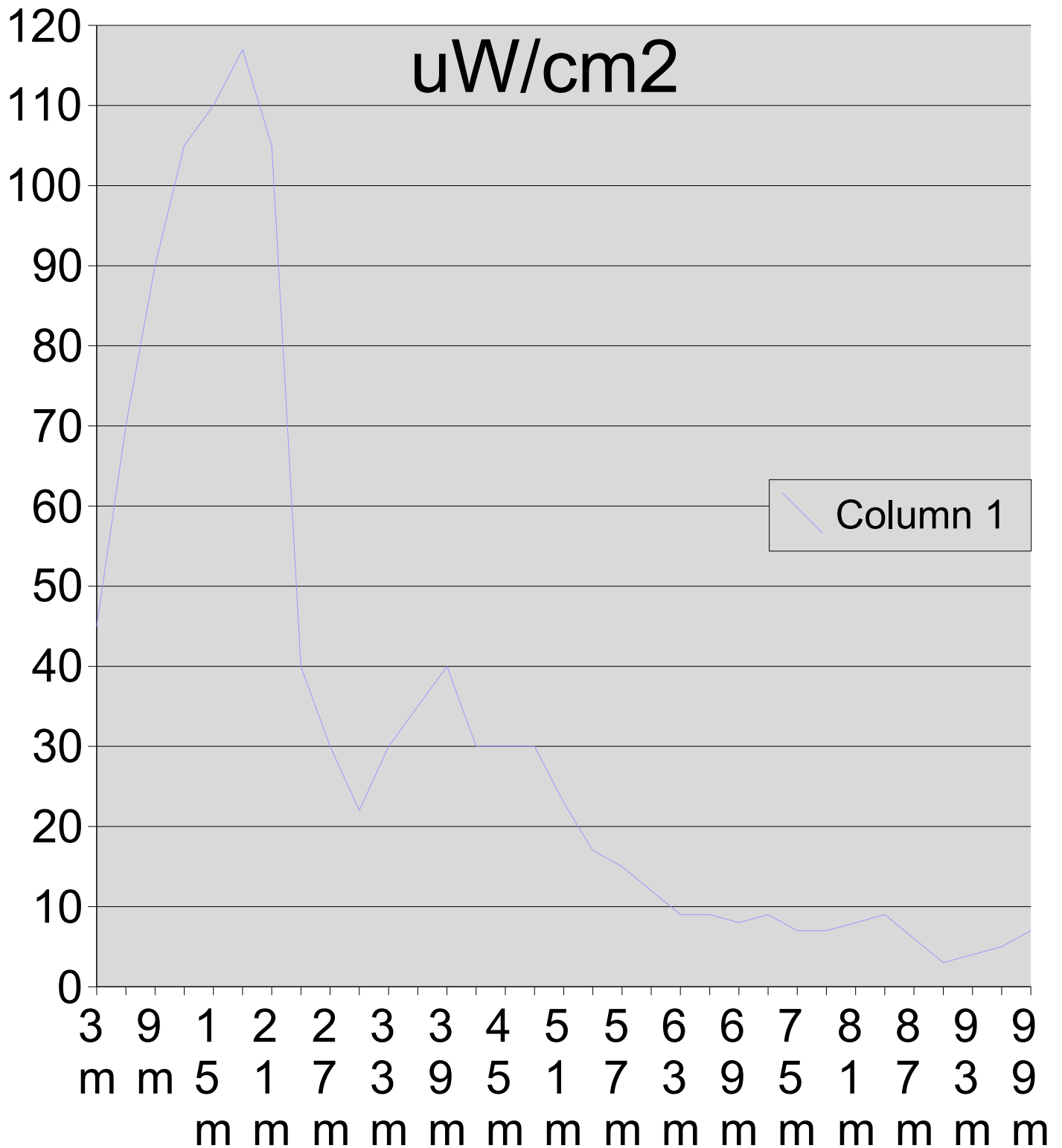
All Facilities RF Readings

Azimuths	Highest Reading	% of Exposure Limit
0 degrees	0.117 mW/cm squared	58.00%
45 degrees	0.100 mW/cm squared	50.00%
90 degrees	0.082 mW/cm squared	41.00%
135 degrees	0.078 mW/cm squared	39.00%
180 degrees	0.062 mW/cm squared	31.00%
225 degrees	0.074 mW/cm squared	37.00%
270 degrees	0.088 mW/cm squared	44.00%
315 degrees	0.102 mW/cm squared	51.00%

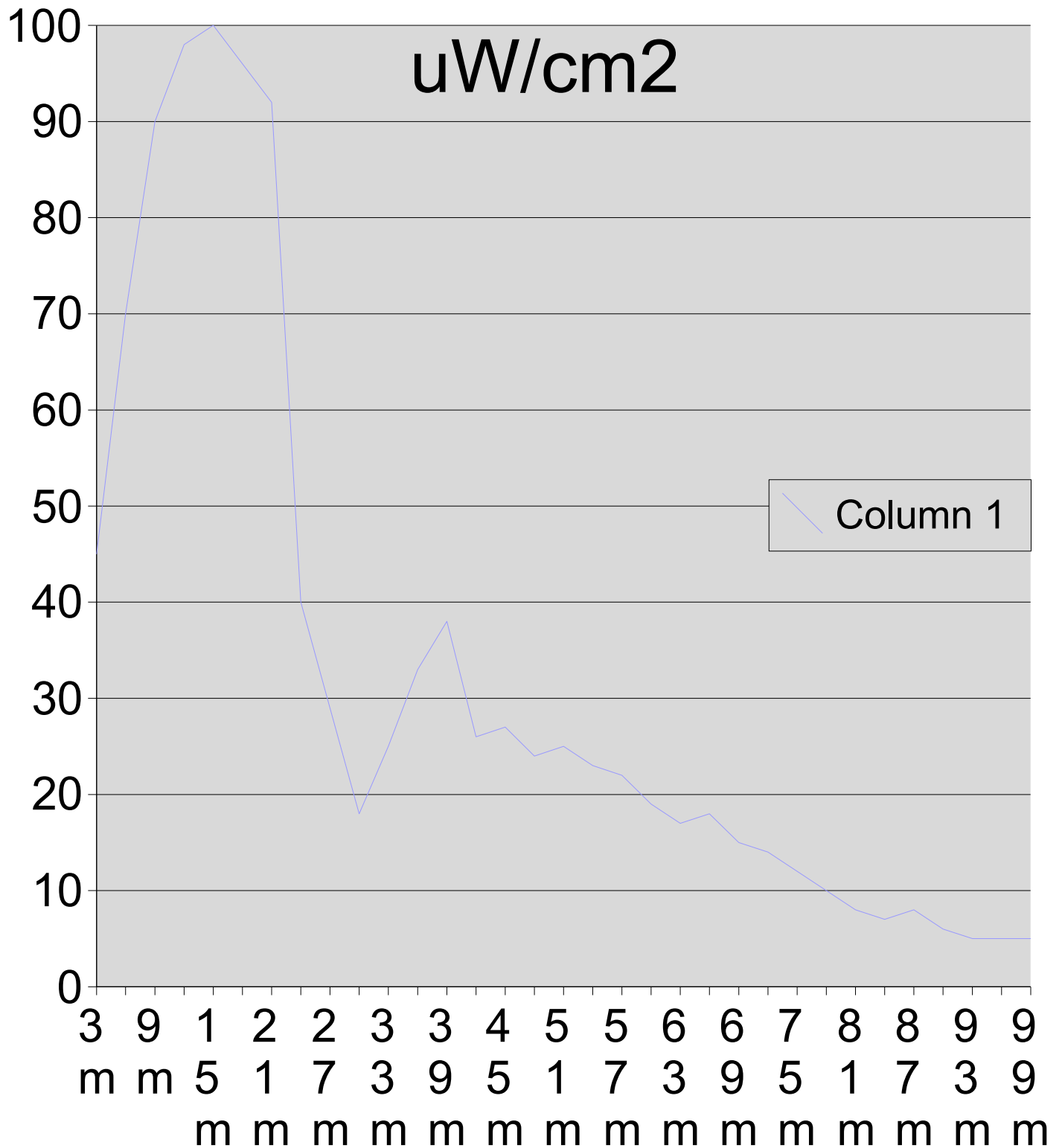
Readings taken along each azimuth from the base KPKJ antenna mast out to 100 meters.

Important Note: Antenna Oriented at 0 degrees.

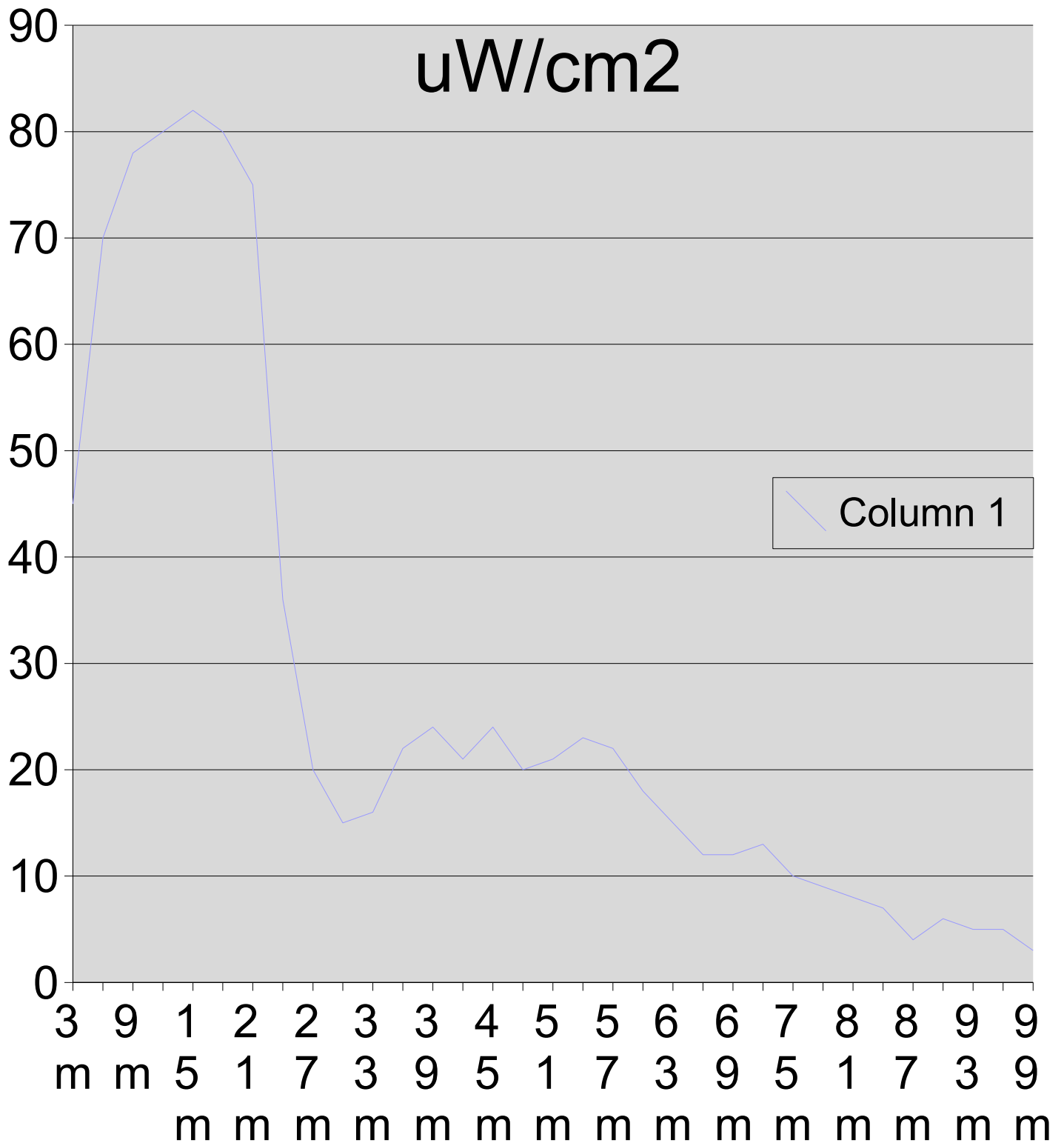
0 Degrees



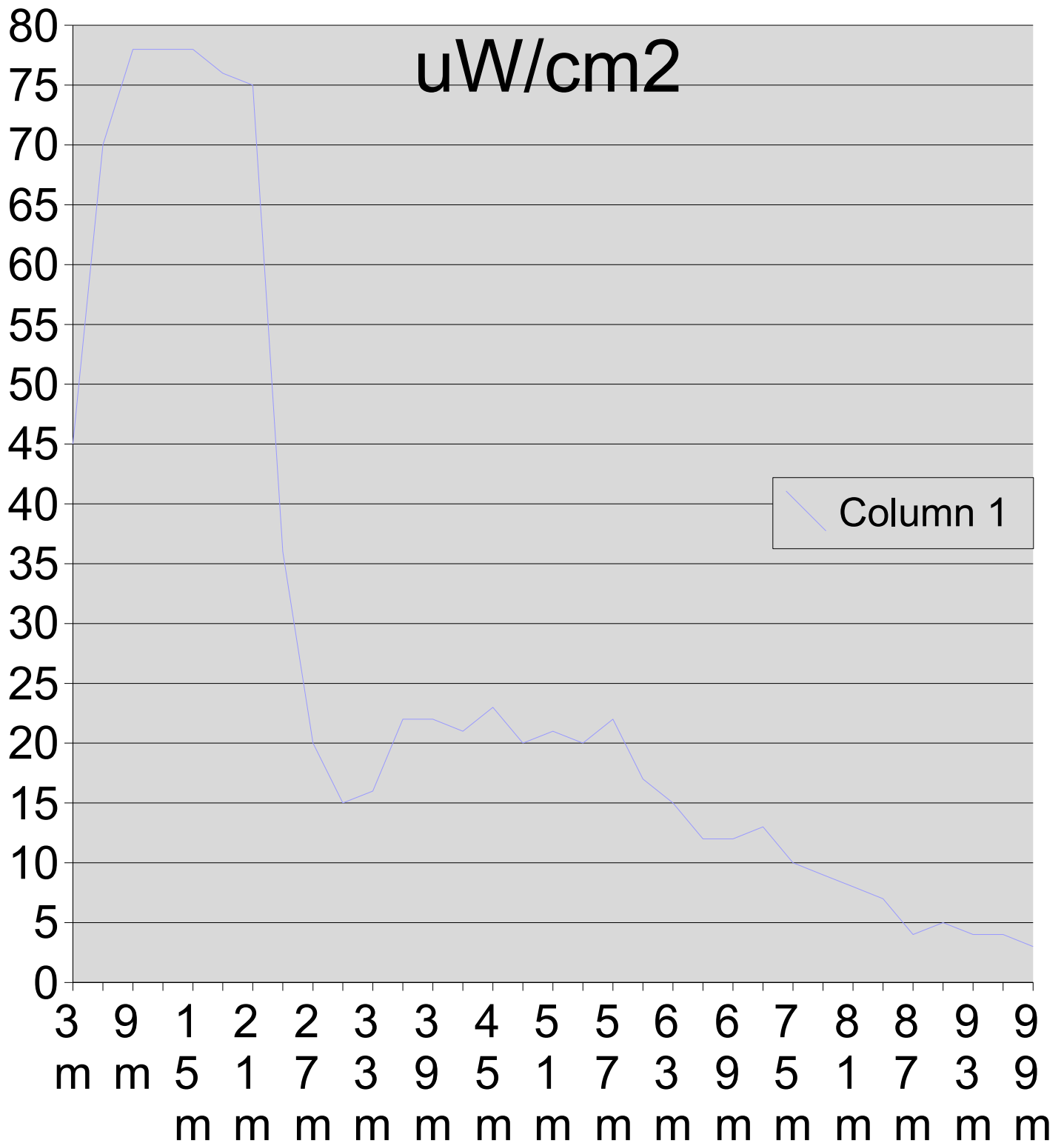
45 Degrees



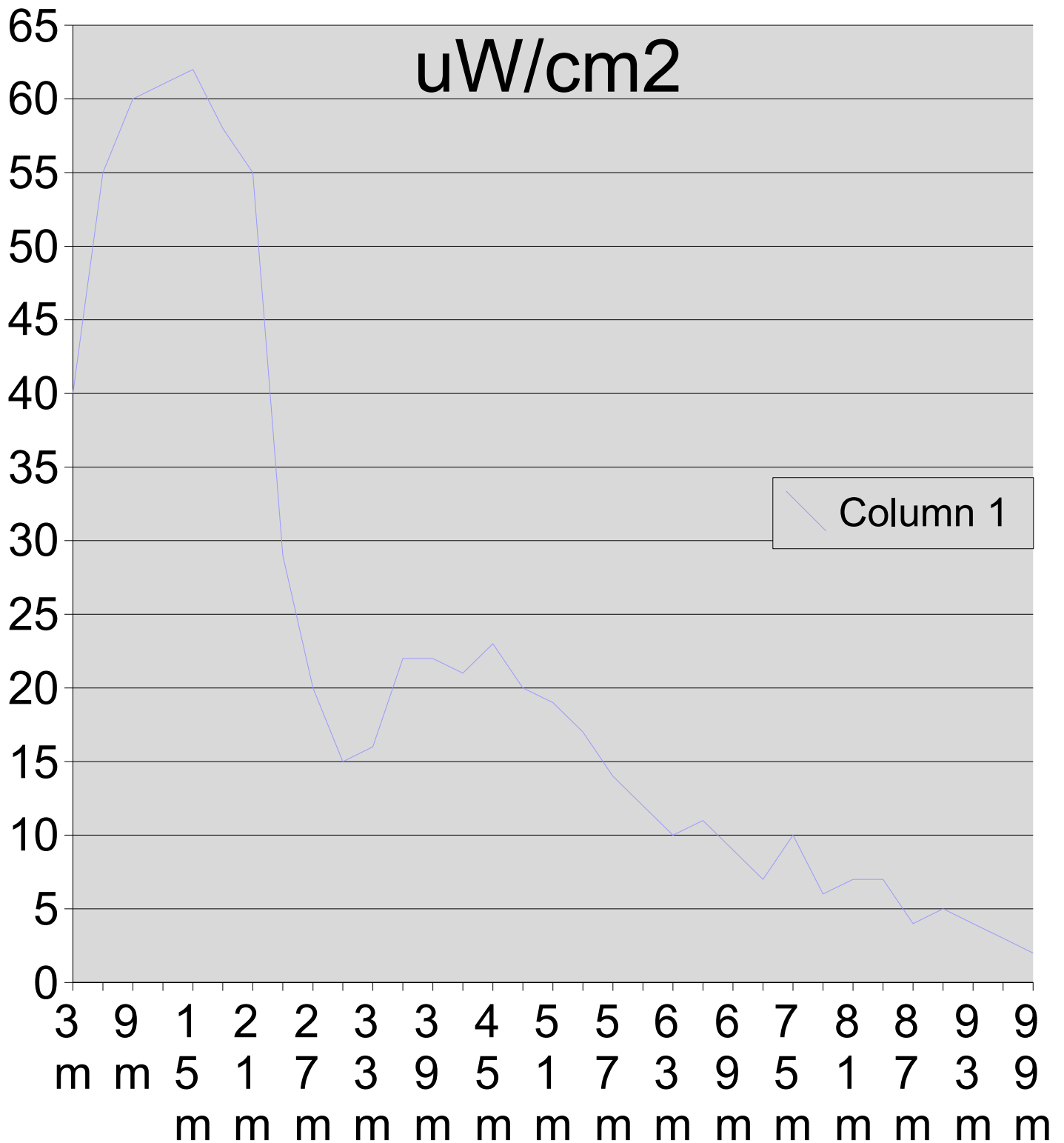
90 Degrees



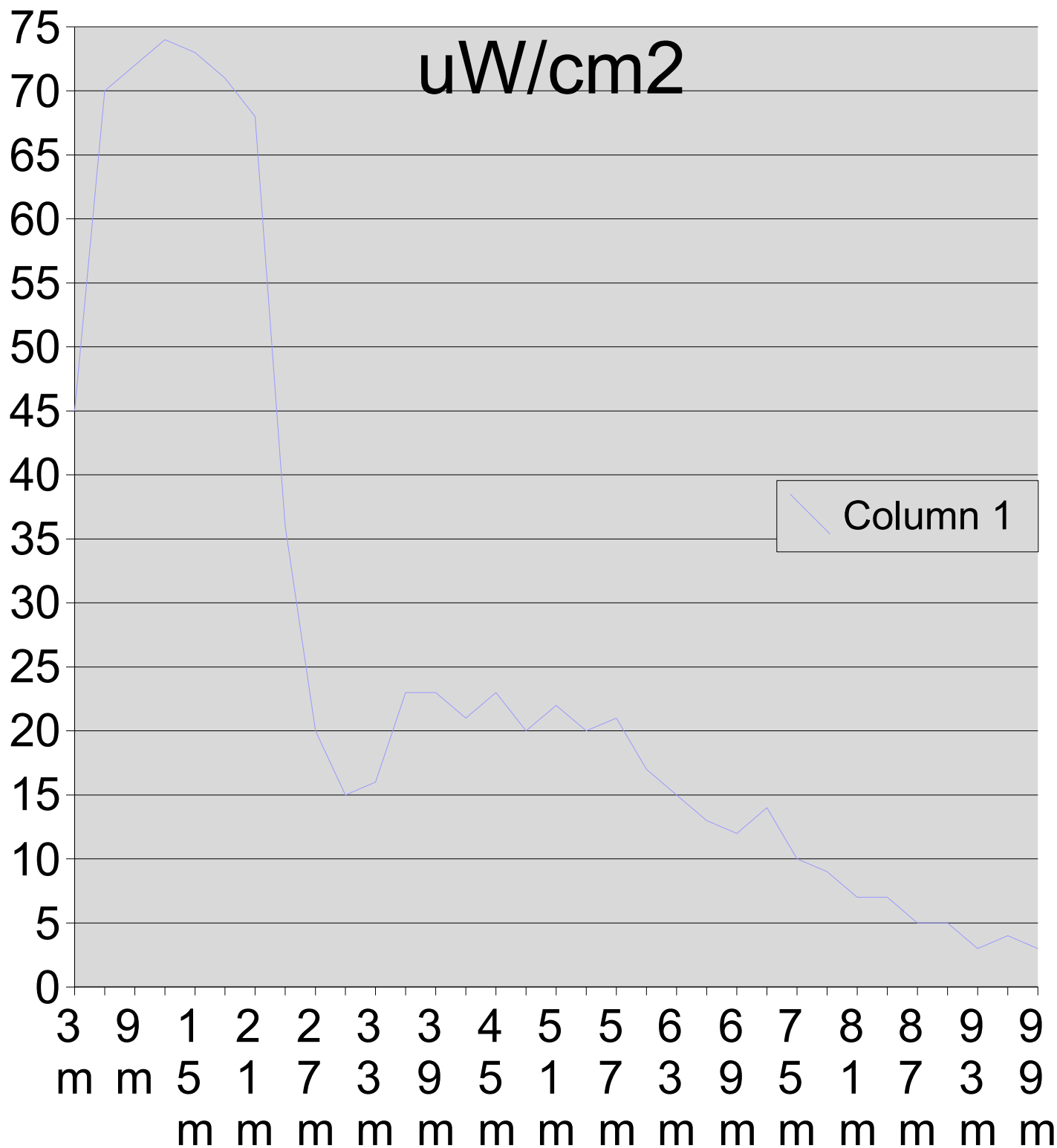
135 Degrees



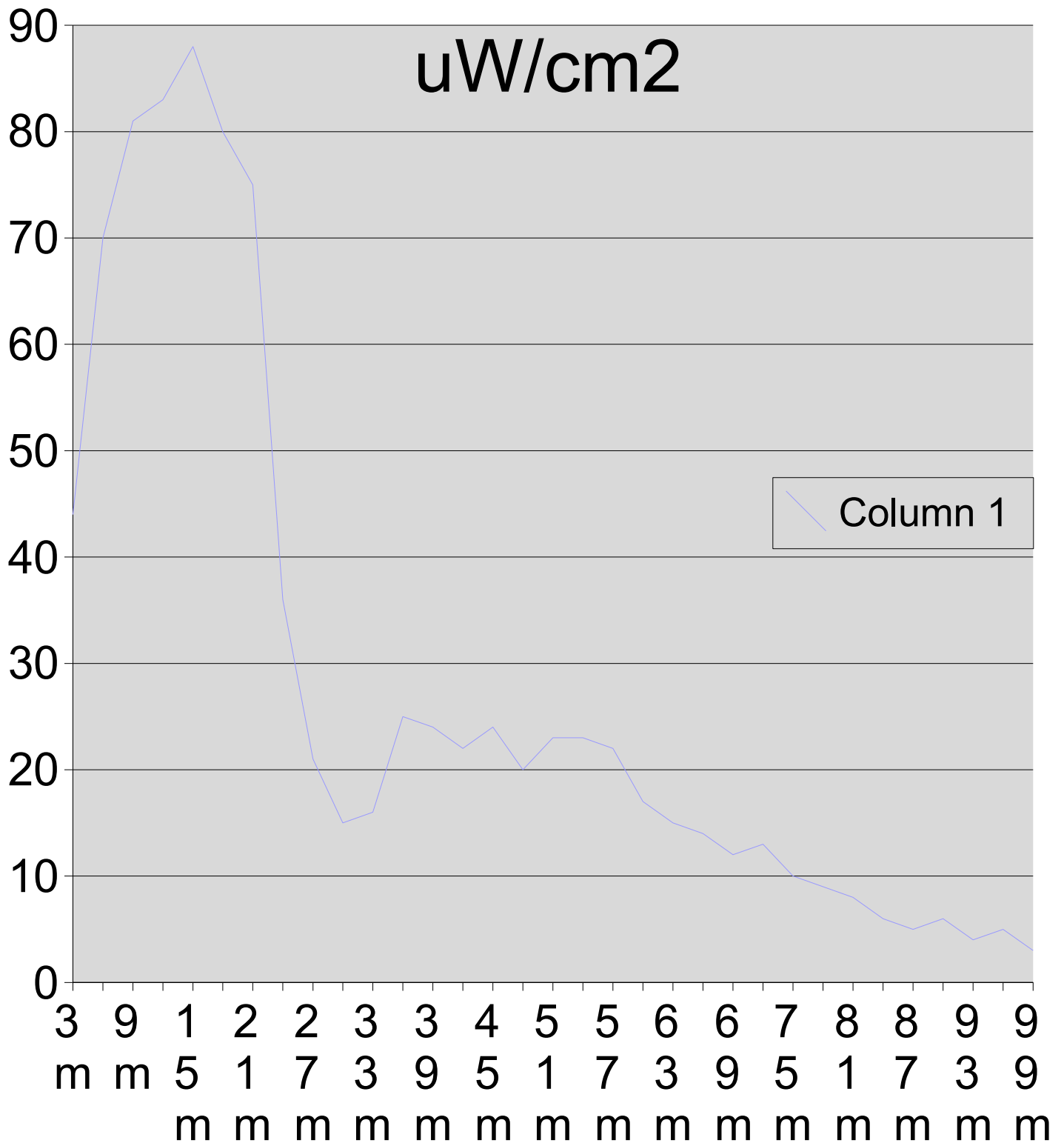
180 Degrees



225 Degrees



270 Degrees



315 Degrees

