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UBAT Characterization Sheet

Date: **June 29, 2010**

S/N: **UBAT0003**

$$\text{Bioluminescence potential (photons/L)} = \frac{\text{Bioluminescence (photons/s)}}{\text{Flow Calibration} \times (\text{Flow Rate RPM})}$$

Flow rate calibration coefficient (L/s•RPM)

4.49E-04

Average flow rate (L/s)

0.316 ± 0.011

PMT calibration coefficient (photons/s)

HV1

1.30E+09

HV2

1.32E+08

HV3

1.31E+07

NOTE: UBAT autogains PMT voltage

Validation light source (in-air)

2.92E+11

Validation light source (in-water)

2.37E+11

Bioluminescence (photons/s)

UBAT output column #4

Flow rate (RPM)

UBAT output column #7

Flow rate calibration coefficient

determined using a NIST traceable flow meter

PMT calibration coefficient

UBAT output column #3
determined using a near-isotropic NIST light standard
inserted through the calibration port
PMT response to the light standard is set for each gain
(1-3, low to high sensitivity respectively)

Validation light source

light source provided with UBAT to verify system response