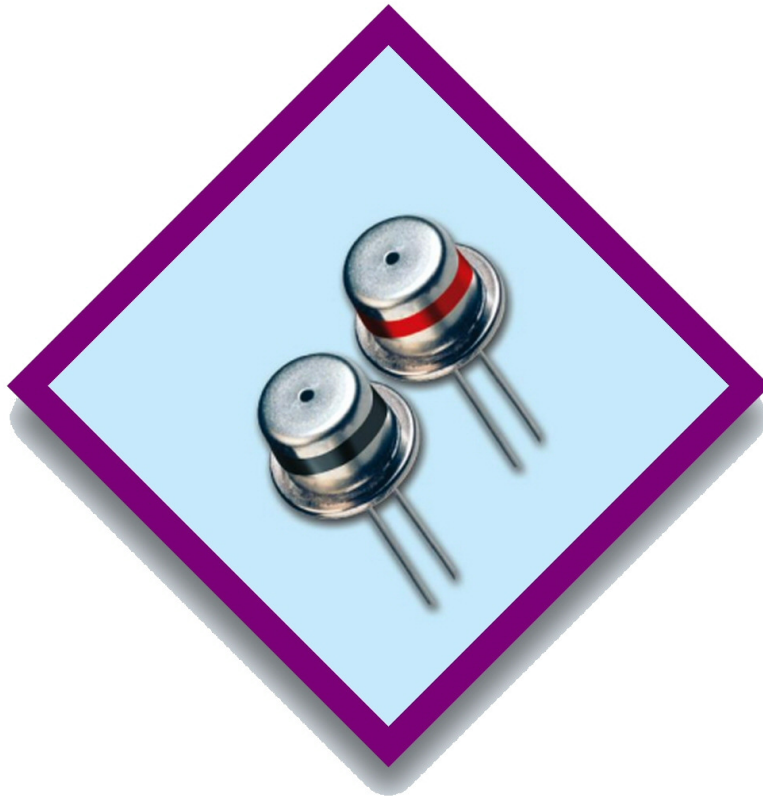




# nemototech

## CHARACTERISATION DATA

### NP-30 CATALYTIC PELLISTOR GAS SENSOR



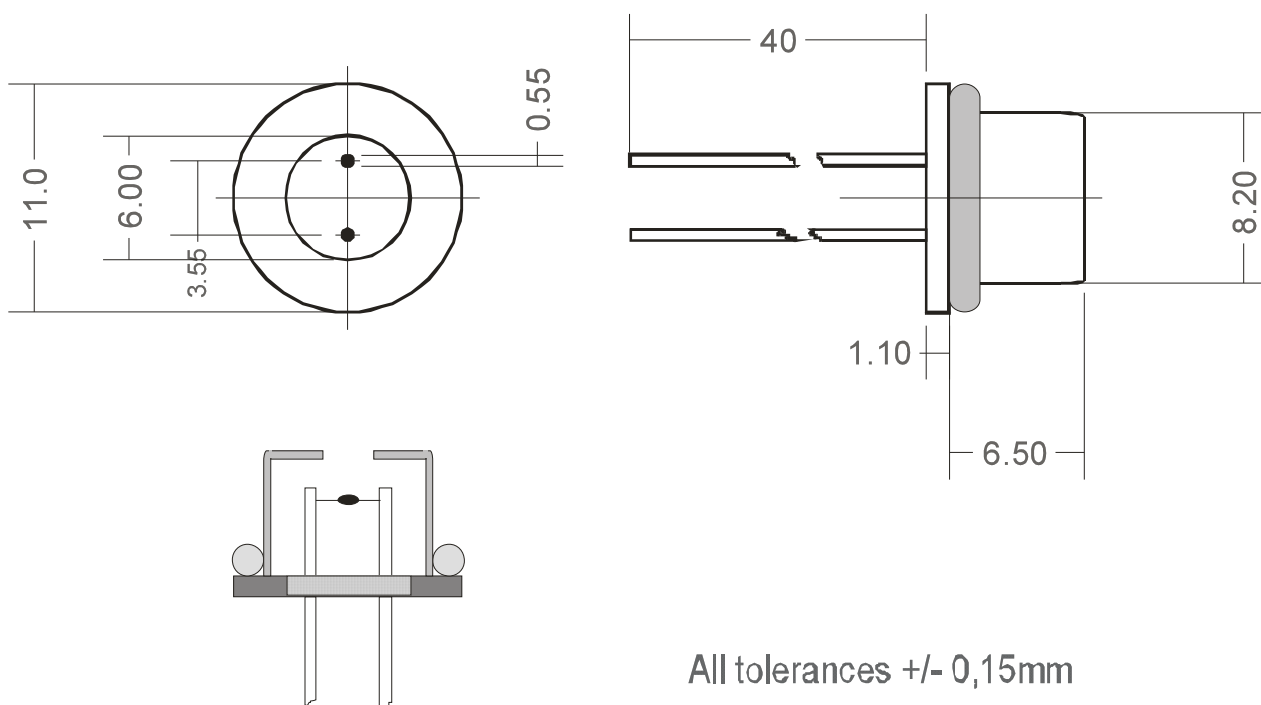
**NEMOTOTECH** S.r.l. – 20010 Cornaredo (MI) ITALY Via Legnano, 2 – Tel. +39.02.93544190 – Fax +39 .02. 93540347  
C.F. e P. IVA (VAT) 03231490966 – CAPITAL . 36.000 EU – Website: [www.nemototech.it](http://www.nemototech.it) – E-mail: [info@nemototech.it](mailto:info@nemototech.it)



## Introduction

The Nemoto NP-30 is a catalytic (pellistor) type flammable gas sensor supplied as a matched pair of elements mounted on headers and protected by a metal enclosure. The sensor detects and measures the presence of flammable gases and vapours in air, in the range 0-100% of the Lower Explosive Limit (LEL) of the gas or vapour being measured. Designed as a sensing platform for use in fixed flammable gas detection systems, the NP-30 exhibits excellent long term zero and sensitivity stability and a high level of resistance to catalytic poisons. The device is compatible with a wide range of commercially available Gas Detection Systems and remote flammable gas detection heads.

**The highly automated manufacturing procedure employed by Nemoto results in a repeatable reliable sensor which, unlike similar devices, requires no trimming resistor to enable the detector to be matched with a compensator.**



All tolerances +/- 0,15mm

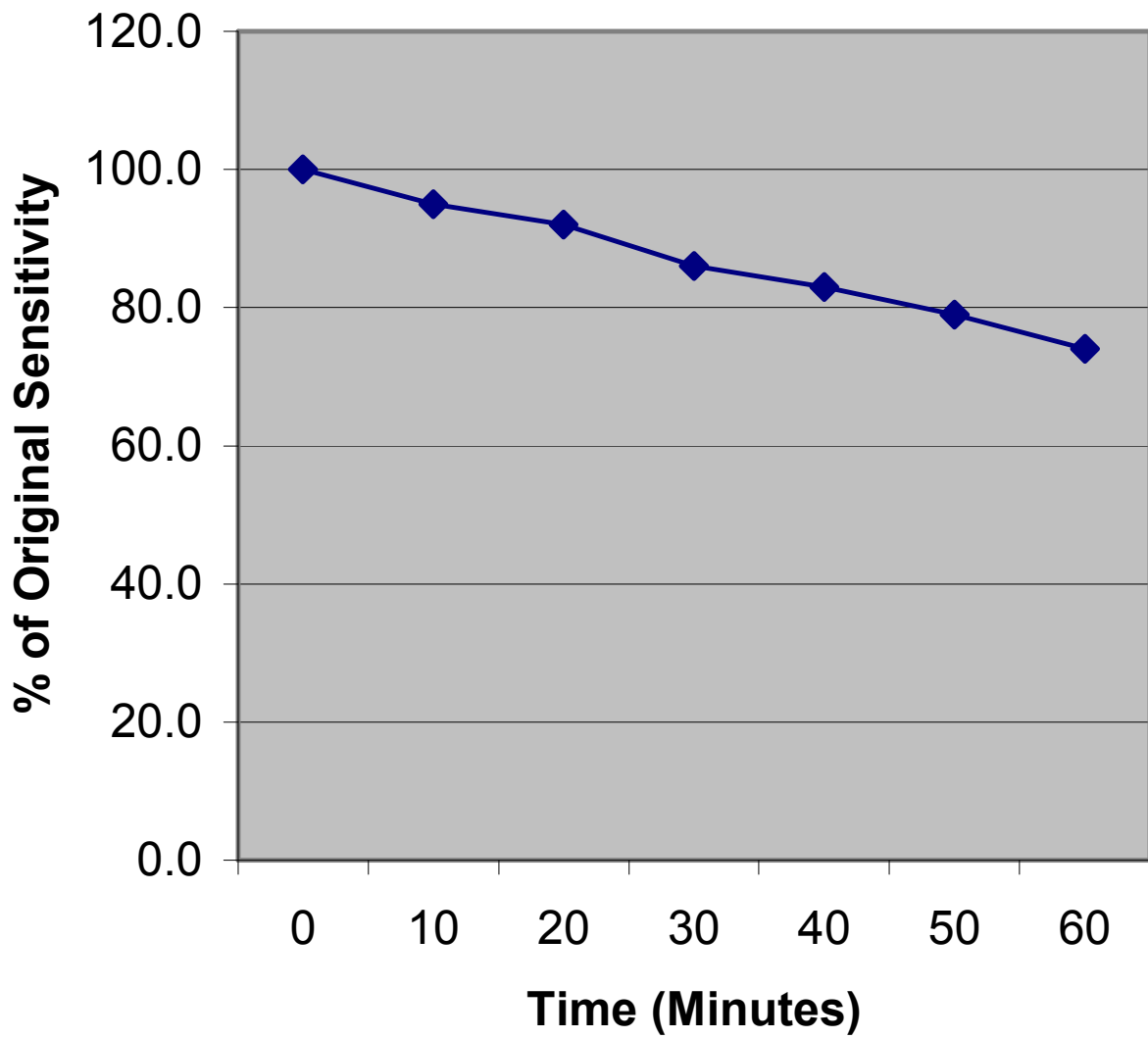
N.E.T. s.r.l.	
NP-30 Gas Sensor	Rev. 0
All Dimensions in mm:	

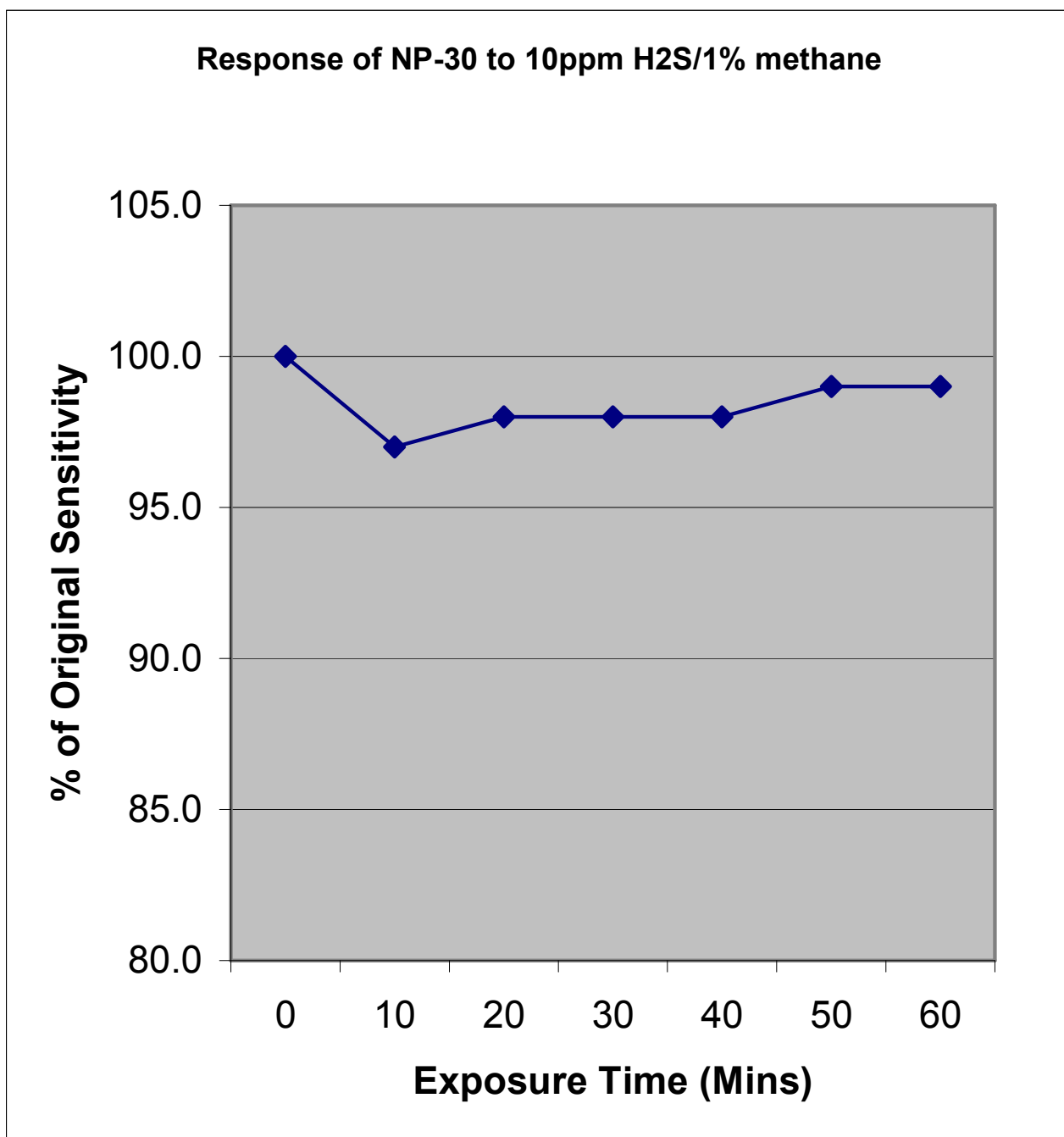
**This characterisation document does not constitute a specification but is intended as a guide, informing the instrument designer of the performance characteristics of the sensor which were observed by Nemototech's Engineers.**

**It should be read in conjunction with Technical Information Sheet ds-np30 which include the full technical specifications for the NP-30 Pellistor Gas Sensor.**



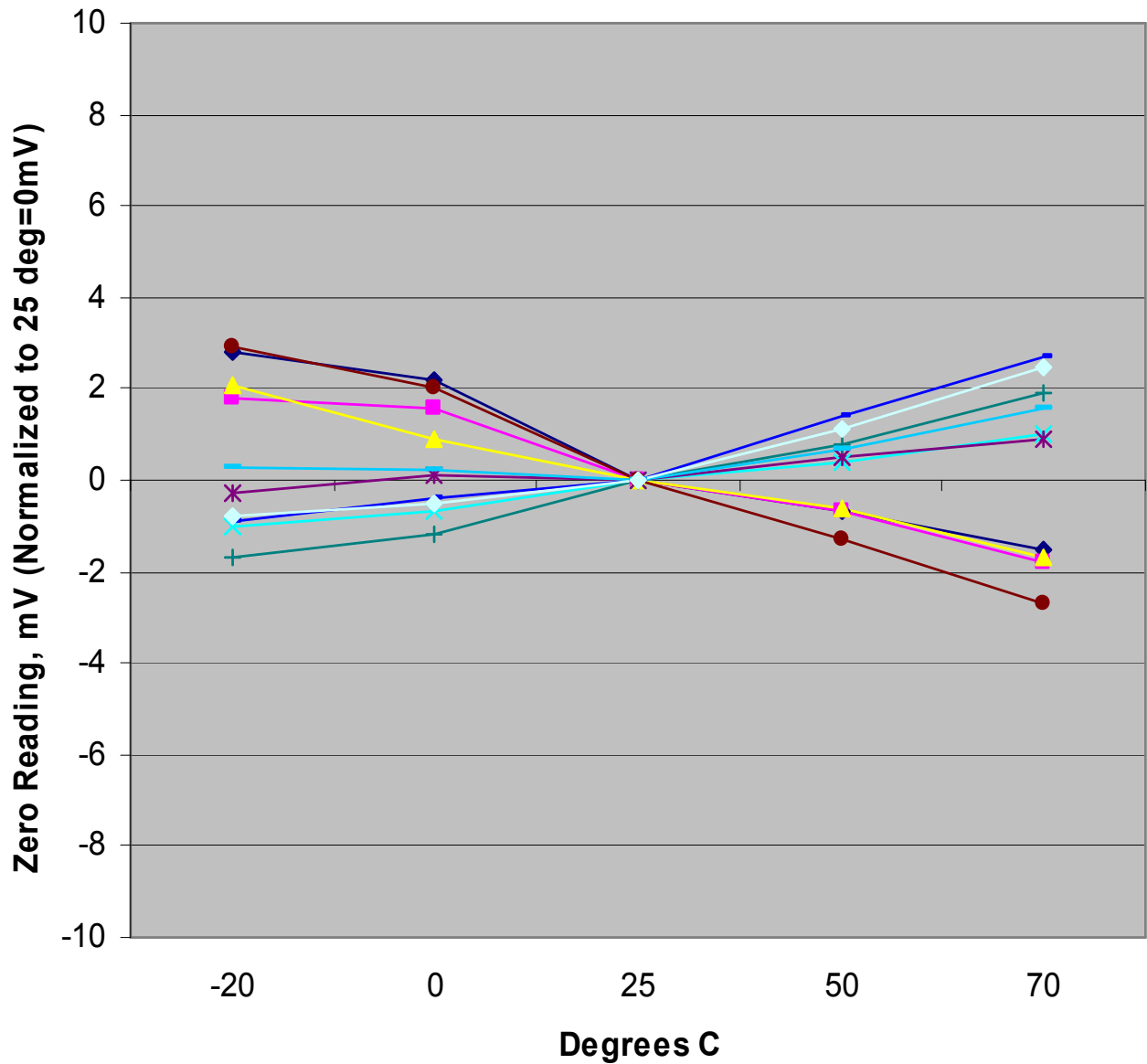
**Response of NP-30 to 100ppm HMDS/2.5% Methane**





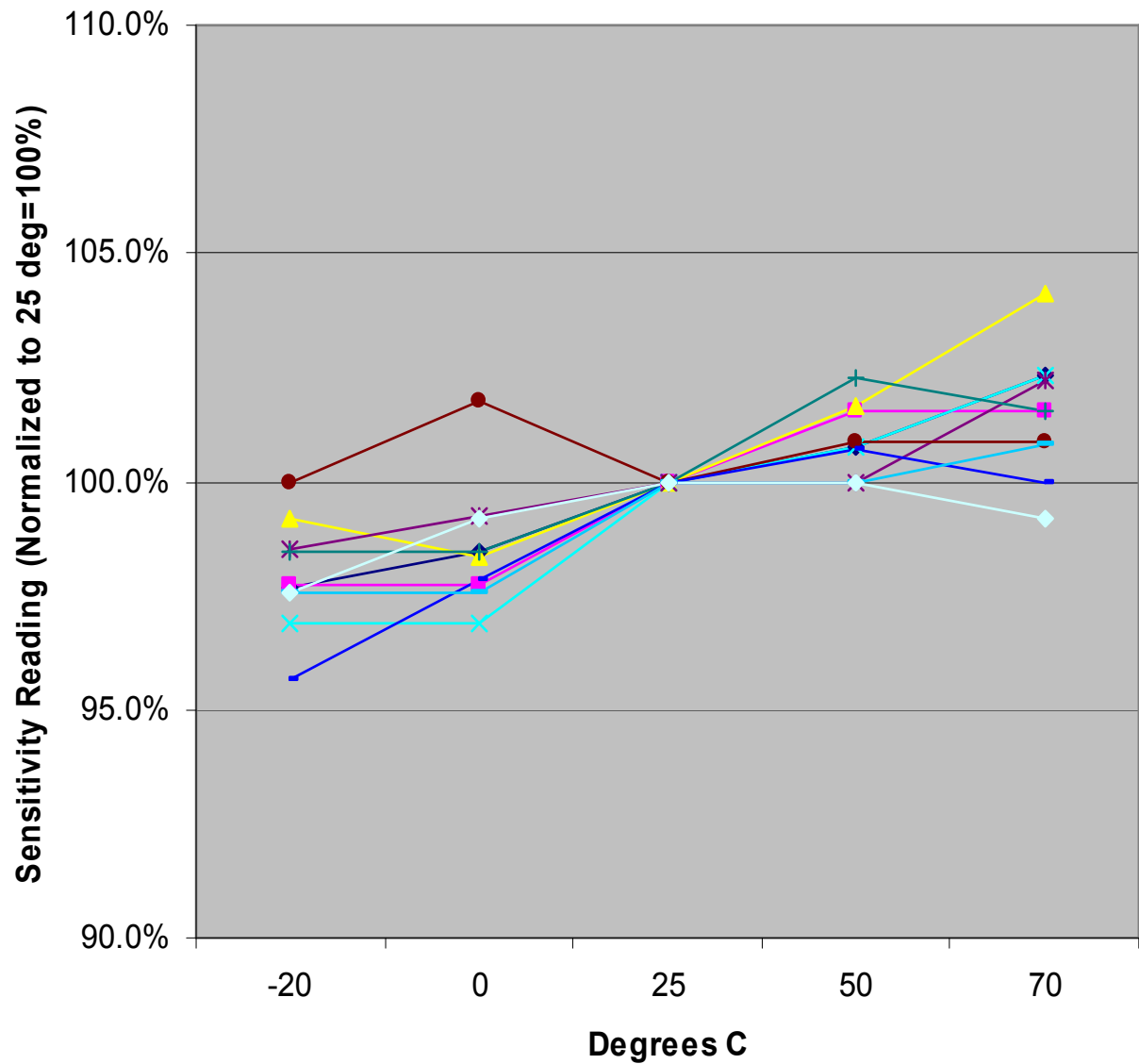


### Zero vs Temperature Performance, NP-30 (1mV=0.8% LEL Methane)



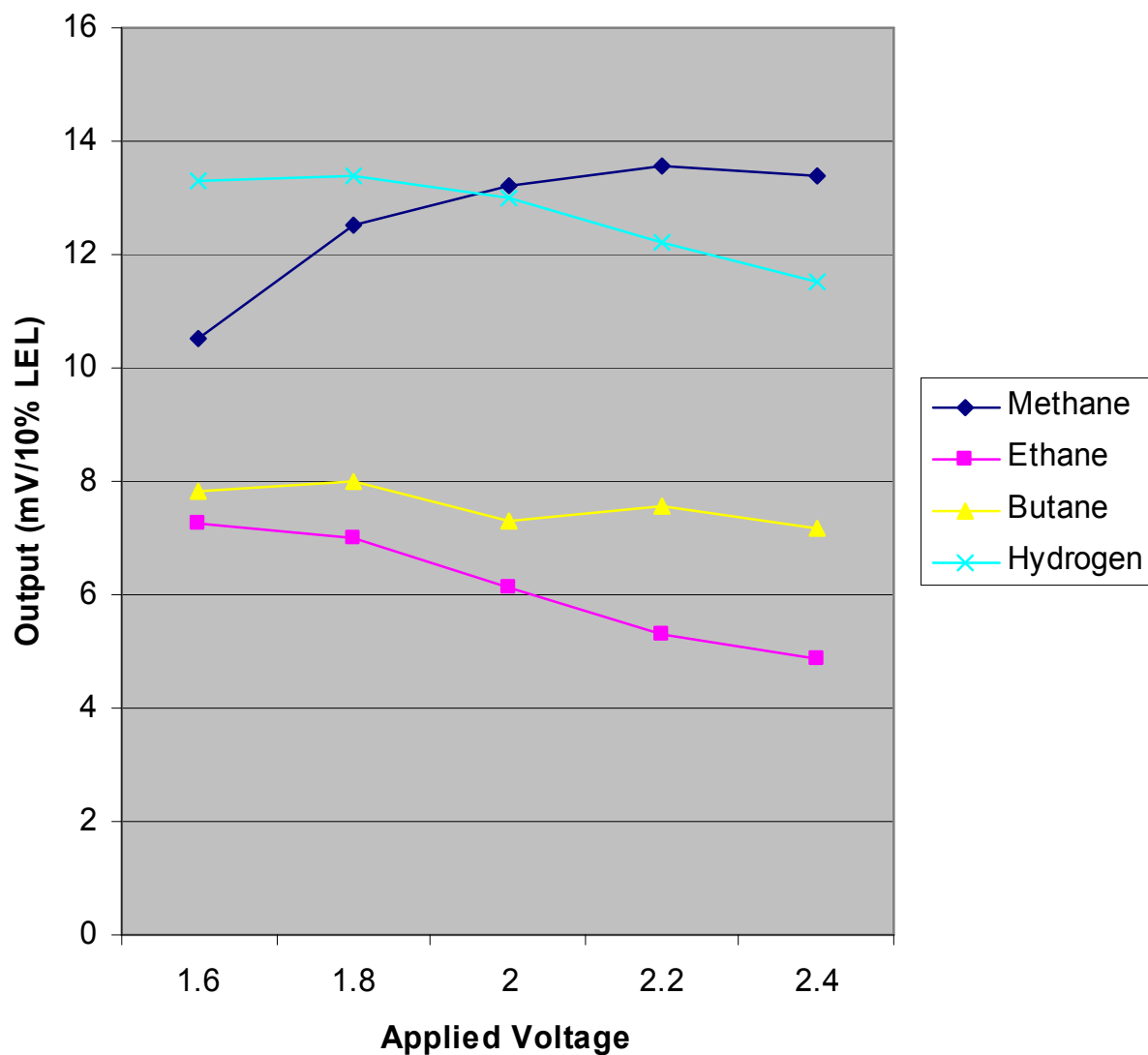


### Span vs Temperature Performance, NP-30



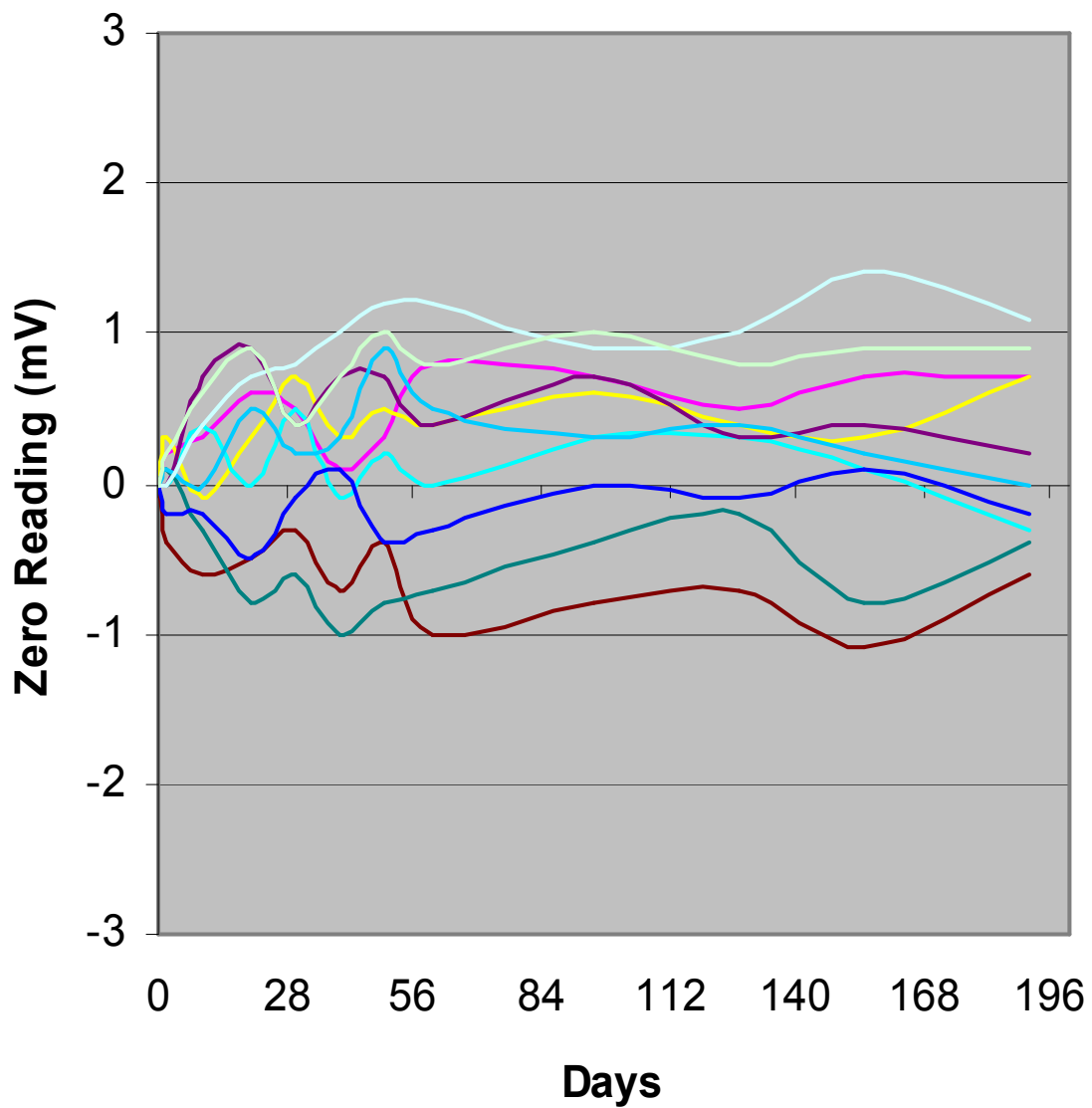


### Typical Output vs Applied Voltage for a selection of Gases, NP-30



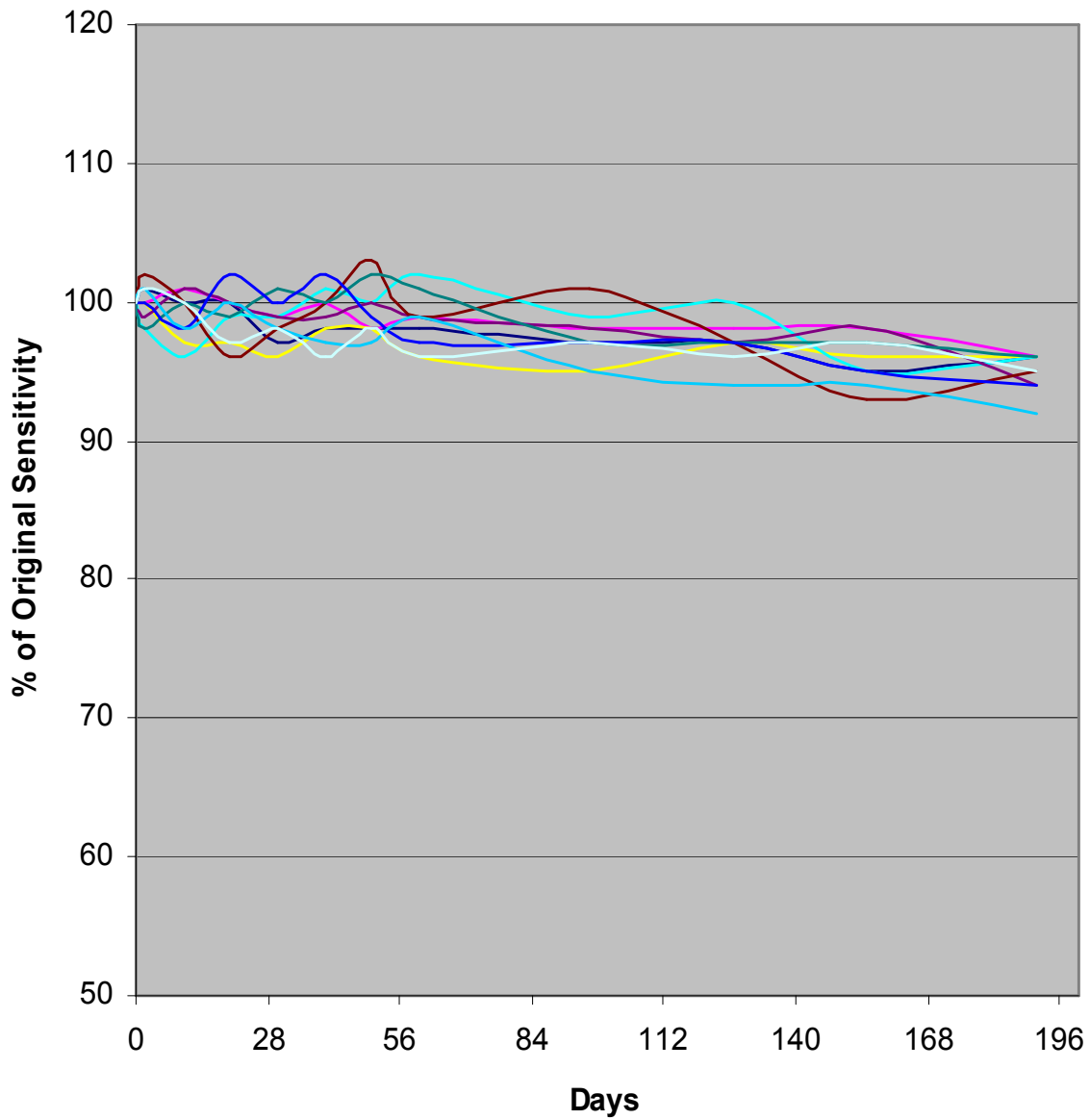


### Long Term Zero Stability, NP-30 (1mV = 0.8% LEL Methane)



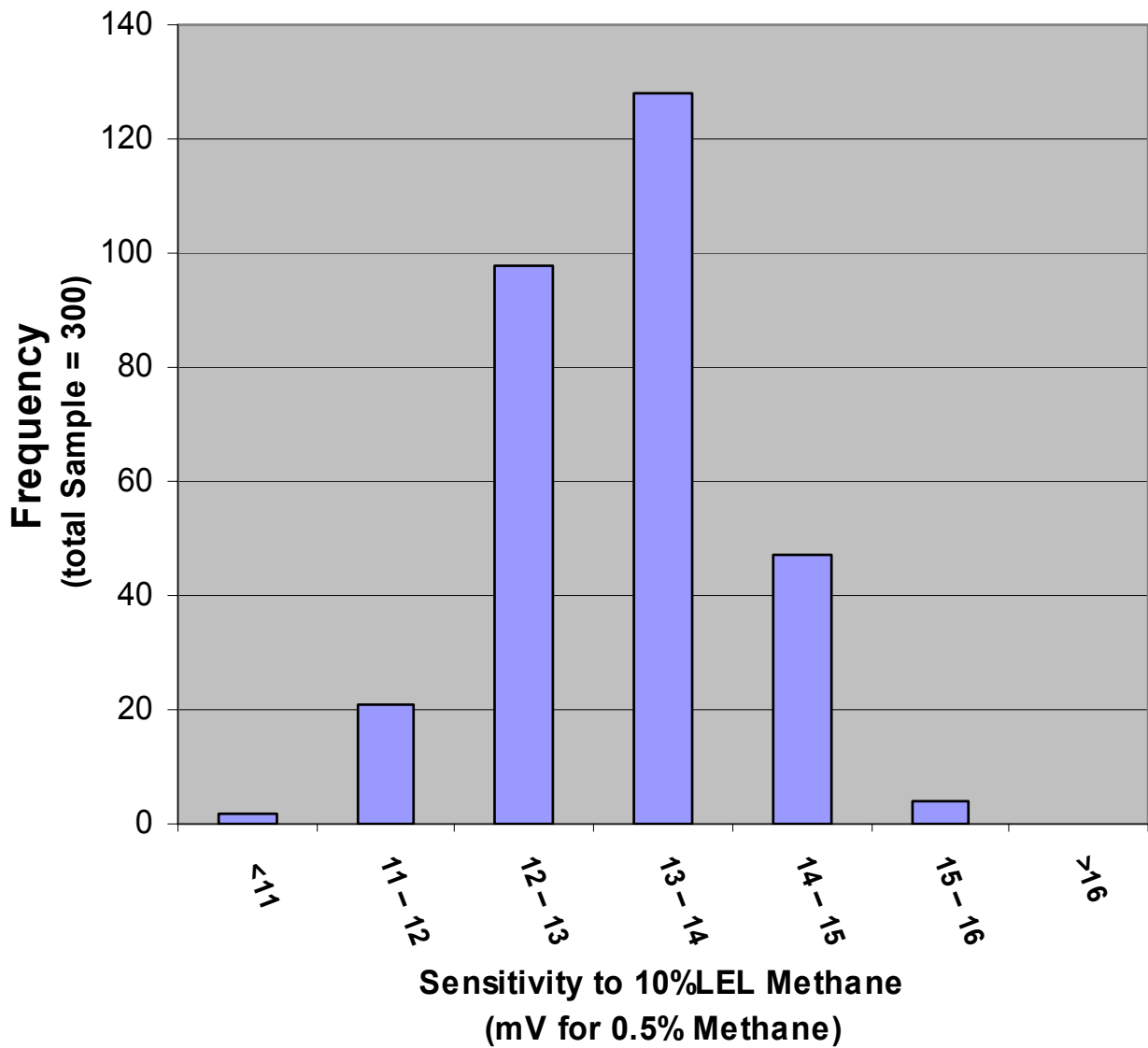


### Long Term Span stability, NP-30



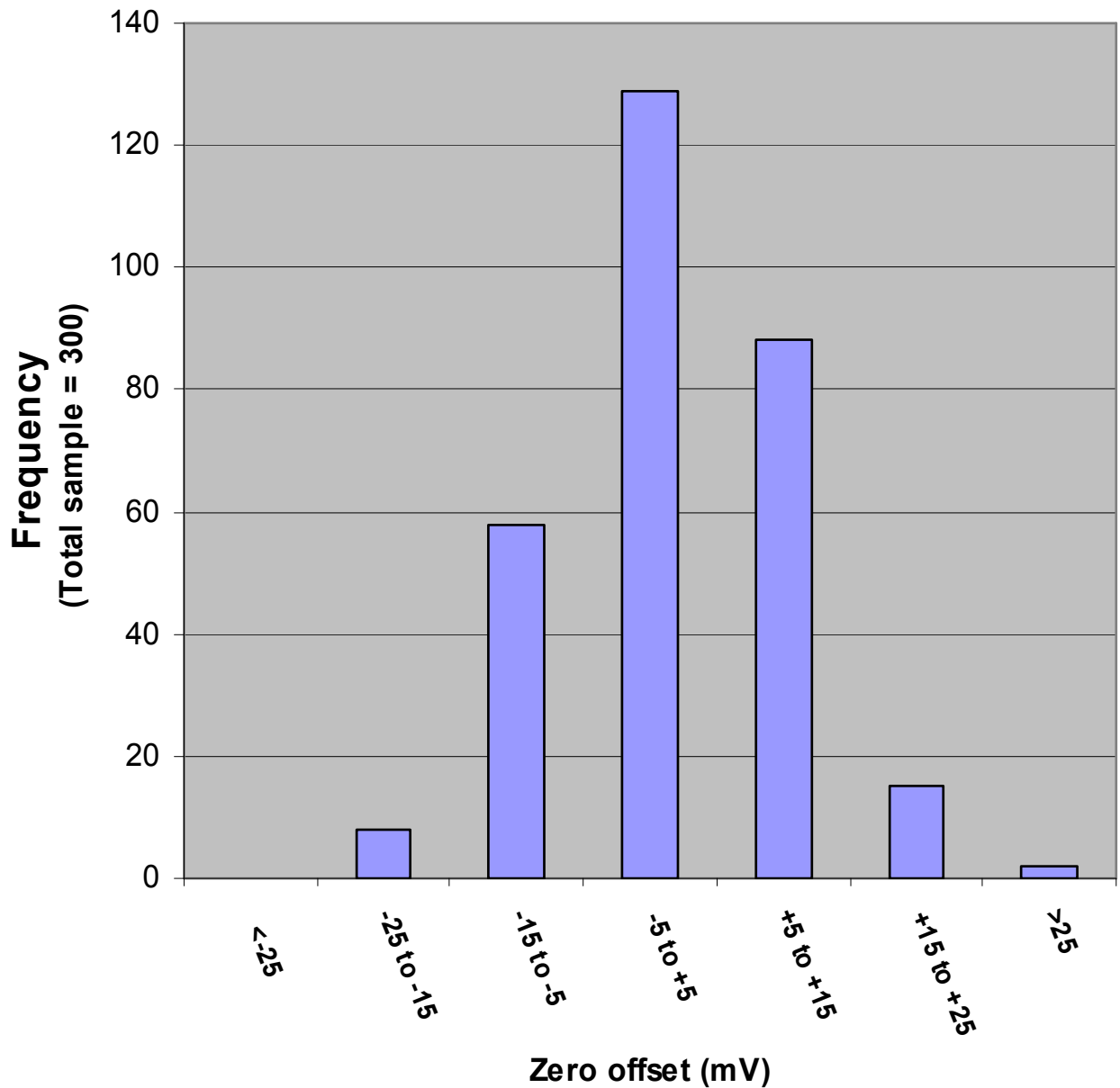


### Span Distribution, NP-30



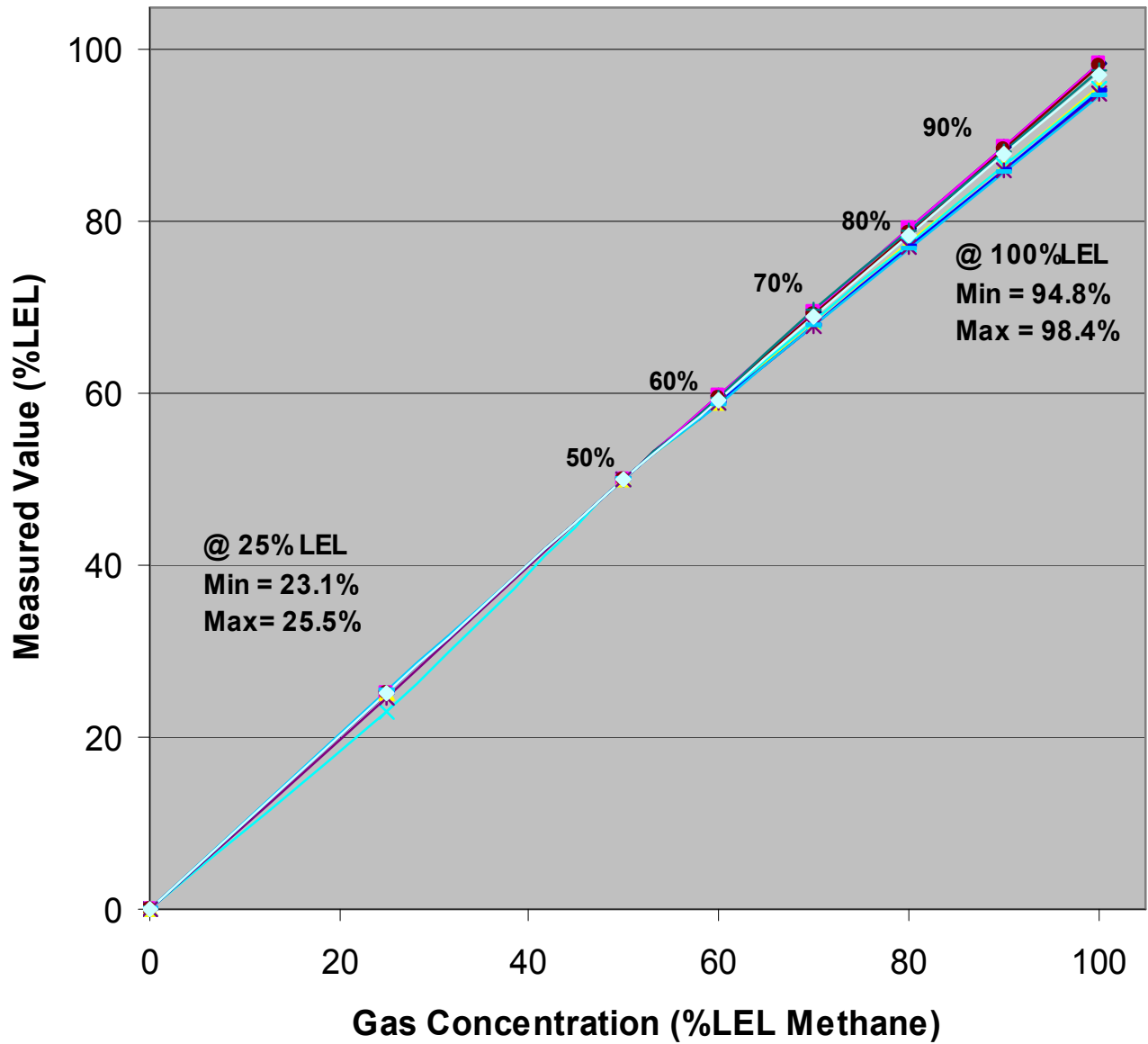


### Zero offset Distribution, NP-30



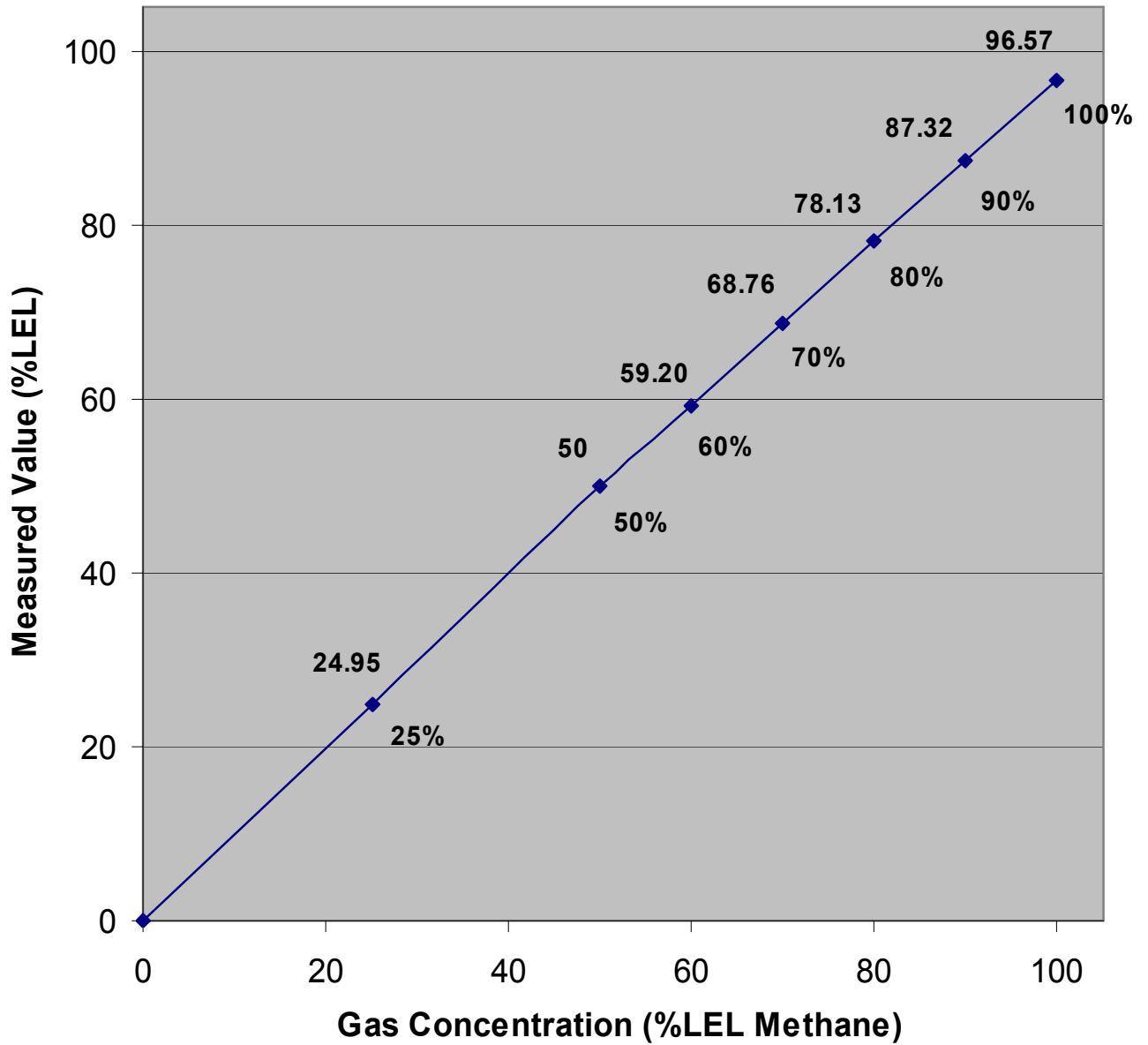


### Linearity, NP-30 (Sensor Calibrated at 50% LEL, 10 Sensors Measured)





### Linearity, NP-30 (Mean Values, Calibrated at 50% LEL)





## **Selected Relative Response Data, NP-30**

<b>Gas/Vapour</b>	<b>LEL (CENELEC Standards)</b>	<b>Relative Response (with respect to Methane)</b>	<b>Gain Adjustment</b>
Acetic Acid	5.4%	0.20	5.00
Acetone	2.6%	0.35	2.86
Ammonia	15%	0.65	1.54
Butyl Acetate	1.4%	0.30	3.33
Cyclo-hexane	1.3%	0.45	2.22
Cyclo-pentane	1.4%	0.50	2.00
Decane	0.75%	0.20	5.00
Dioxane	2.0%	0.50	2.00
Ethane	3.0%	0.85	1.18
Ethanol	3.3%	0.45	2.22
Ethyl Acetate	2.2%	0.35	2.86
Ethylene	2.7%	0.65	1.54
Hydrogen	4.0%	0.95	1.05
Iso-Butane	1.8%	0.55	1.82
Iso-butyl Alcohol	1.7%	0.30	3.33
Iso-Octane	0.95%	0.35	2.86
Iso-Pentane	1.4%	0.45	2.22
Iso-Propyl Alcahol (IPA)	2.2%	0.35	2.86
Methane	5%	1.00	1.00
Methanol	6.7%	0.70	1.43
Methyl Ethyl Ketone (MEK)	1.9%	0.35	2.86
n-Butane	1.8%	0.55	1.82
n-Heptane	1.05%	0.40	2.50
n-Hexane	1.02%	0.45	2.22
Nonane	0.85%	0.25	4.00
n-Pentane	1.4%	0.50	2.00
n-propanol	2.2%	0.40	2.50
n-Propyl Alcahol	2.2%	0.40	2.50
Propane	2.1%	0.60	1.67
Propylene	2.4%	0.70	1.43
Styrene Monomer	1.1	0.30	3.33
Toluene	1.2%	0.40	2.50
Benzene	1.3%	0.35	2.86
Iso-Butyl Methyl Ketone	1.2%	0.25	4.00