

LIGHT METER READINGS FOR THE ELAN VALLEY ESTATE

SITE 1 : CEREDIGION/POWYS BOUNDARY

CO-ORDS: N52 22.104 W003 41.083 SN 85393 75820

ELEVATION: 1238ft

Date	02/03/13	04/11/13	04/12/13	08/01/14	19/04/14
	21.48	22.10	22.64	22.10	21.52
	21.33	22.50	21.84	22.50	21.31
	21.44	22.05	21.31	22.05	21.42
	21.28	22.24	22.58	22.24	21.32
	21.17	22.36	22.72	22.36	21.14
AVERAGE	21.34	22.25	22.22	22.25	21.34

SITE 1: Total of 25 SQM readings = 547.00: Average = 21.88: NELM = 6.57

SITE 2 : BRIDGE CROSSING

CO-ORDS: N52 20.801 W003 38.954 SN 87754 73349

ELEVATION: 1162ft

Date				19/04/14	16/01/15
				21.85	22.35
				21.54	22.31
				21.53	22.31
				21.55	22.07
				21.50	22.11
AVERAGE				21.59	22.23

SITE 2: Total of 10 SQM readings = 219.12: Average = 21.912: NELM = 6.58

SITE 3 : ROAD SUMMIT - PENRHIW WEN

CO-ORDS: N52 19.470 W003 35.103 SN 92071 70784

ELEVATION: 1614ft

Date	02/03/13	04/11/13	04/12/13	08/01/14	19/04/14
	21.44	22.33	22.32	22.33	21.79
	21.31	22.45	21.88	22.45	21.49
	21.30	22.42	22.35	22.42	21.56
	21.19	22.24	21.43	22.24	21.53
	21.18	22.77	22.72	22.77	21.45
AVERAGE	21.28	22.44	22.14	22.44	21.56

SITE 3: Total of 25 SQM readings = 549.36: Average = 21.974: NELM = 6.61

SITE 4 : VISITOR CENTRE

CO-ORDS: N52 16.152 W003 34.292 SN 92859 64613

ELEVATION: 744ft

Date	02/03/13		04/12/13		19/04/14
	21.73		21.53		21.77
	21.61		21.85		21.66
	21.48		22.36		21.60
	21.48		21.57		21.64
	21.29		22.20		21.71
AVERAGE	21.52		21.90		21.67

SITE 4: Total of 15 SQM readings = 325.48: Average = 21.699: NELM = 6.48**SITE 5 : CABAN COCH LAYBY**

CO-ORDS: N52 16.072 W003 34.875 SN 92193 64479

ELEVATION: 805ft

Date				19/04/14	16/01/15
				21.72	21.98
				21.69	22.01
				21.61	21.99
				21.67	22.02
					22.04
AVERAGE				21.67	22.01

SITE 5: Total of 9 SQM readings = 196.73: Average = 21.858: NELM = 6.56**SITE 6 : OLD BARN**

CO-ORDS: N52 14.581 W003 36.839 SN 89897 61765

ELEVATION: 853ft

Date					19/04/14
					21.83
					21.76
					21.76
					21.71
					21.67
AVERAGE					21.75

SITE 6: Total of 5 SQM readings = 108.73: Average = 21.746: NELM = 6.51

SITE 7 : CLAERWEN PICNIC AREA

CO-ORDS: N52 15.380 W003 39.285 SN 87148 63308

ELEVATION: 1024ft

Date	02/03/13	04/11/13	04/12/13	08/01/14	19/04/14
	21.69	21.90	21.49	21.39	21.84
	21.71	21.50	21.60	21.50	21.78
	21.57	21.45	21.52	21.45	21.79
	21.37	21.34	21.56	21.34	21.75
	20.95	21.63	21.15	21.63	21.69
AVERAGE	21.46	21.56	21.46	21.46	21.77

SITE 7: Total of 25 SQM readings = 538.59: Average = 21.54: NELM = 6.41

SITE 8 : CLAERWEN FARM ROAD BEND

CO-ORDS: N52 16.195 W003 39.020 SN 87484 64812

ELEVATION: 1246ft

Date				19/04/14	16/01/15
				21.83	22.08
				21.75	22.11
				21.75	22.09
				21.71	22.14
				21.71	22.08
AVERAGE				21.75	22.10

SITE 8: Total of 10 SQM readings = 219.25: Average = 21.925: NELM = 6.59

SITE 9 : CYCLE TRACK PULL IN

CO-ORDS: N52 16.520 W003 35.581 SN 91408 65327

ELEVATION: 836ft

Date				19/04/14	16/01/15
				21.81	21.99
				21.69	21.96
				21.70	22.02
				21.64	21.98
				21.71	22.03
AVERAGE				21.71	22.00

SITE 9: Total of 10 SQM readings = 218.53: Average = 21.853: NELM = 6.56

SITE 10 : CRAIG GOCH DAM CAR PARK

CO-ORDS: N52 18.309 W003 37.367 SN 89452 68688

ELEVATION: 1049ft

Date	02/03/13	04/11/13	04/12/13	08/01/14	19/04/14
	21.73	21.31	21.63	21.31	21.74
	21.63	21.29	21.99	21.29	21.68
	21.68	21.32	21.93	21.32	21.72
	21.17	21.43	22.29	21.43	21.66
	21.28	21.35	21.98	21.35	21.68
AVERAGE	21.50	21.34	21.96	21.34	21.70

SITE 10: Total of 25 SQM readings = 539.19: Average = 21.568: NELM = 6.42

SITE 11 : HERNANT

CO-ORDS: N52 19.310 W003 37.683 SN 89134 70552

ELEVATION: 1147ft

Date				19/04/14	16/01/15
				21.81	22.07
				21.73	22.04
				21.67	22.01
				21.61	22.04
				21.62	22.04
AVERAGE				21.71	22.04

SITE 11: Total of 10 SQM readings = 218.74: Average = 21.874: NELM = 6.57

SITE 12 : PONT AR ELAN

CO-ORDS: N52 19.849 W003 36.669 SN 90308 71525

ELEVATION: 1057ft

Date	02/03/13	04/11/13	04/12/13	08/01/14	19/04/14
	21.58	21.36	21.73	21.36	21.68
	21.45	21.43	22.19	21.43	21.66
	21.52	21.25	21.88	21.25	21.61
	21.36	21.43	22.15	21.43	21.63
	21.21	21.40	21.83	21.40	21.60
AVERAGE	21.42	21.37	21.96	21.37	21.64

SITE 12: Total of 25 SQM readings = 538.82: Average = 21.553: NELM = 6.41

SITE 13 : TEIFI POOLS ROAD - END

CO-ORDS: N52 17.825 W003 46.164 SN 79434 68025

ELEVATION:1397ft

Date			08/01/14	19/04/14	18/01/15
			21.48	21.48	22.02
			21.52	21.53	22.06
			21.46	21.48	22.01
			21.48	21.47	22.08
			21.46	21.46	22.11
AVERAGE			21.48	21.48	22.06

SITE 13: Total of 15 SQM readings = 325.1: Average = 21.673: NELM = 6.47

NELM's were obtained by using the following link, entering the SQM figures into the conversion boxes.

<http://unihedron.com/projects/darksky/NELM2BCalc.html>

Conversion Calculator - NELM (V) to MPSAS (B) systems

K. Fisher fisherka@csolutions.net Rev. 8/2006

Convert NELM (V mags) to MPSAS (B) sky brightness

NELM: Calculate MPSAS (B):

Convert MPSAS (B) sky brightness to NELM (V mags)

MPSAS (B): Calculate NELM:

Convert extended object size (arcmins) and apparent brightness (V) to MPSAS

Object magnitude (V): Major axis diameter (arcmin): Minor axis diameter (arcmin):
Calculate MPSAS:

Compute an extended object's contrast index

Background sky brightness MPSAS: Object brightness MPSAS:
Calculate Contrast Index:

GRAND TOTALS

of 209 individual SQM readings = 4544.64

Average individual SQM reading = 21.745
(4544.64 / 209)

Average individual NELM = 6.506

The average nightly SQM reading at each site,

(42 readings in RED figures),

vary from 21.28 to 22.44,

equating to Nightly NELM's of 6.27 to 6.81

Overall total of these **42** SQM readings = 913.24

Average Nightly SQM reading = 21.744
(913.24 / 42)

Average Nightly NELM = 6.505