

Fig. S1. (A) Spectral reflectance measurements of the two squares that contribute to the checkerboard stimulus patterns. The yellow and green squares are represented by the dashed green line. The red squares are represented by the solid red line. Squares were irradiated with a *Solux* broad spectrum tungsten lamp. Spectra were measured with an Ocean Optics JAZ fiber optic spectroradiometer using a 4° radiance probe positioned at 45° relative to the surface at a distance of 1.0 cm from the surface. A diffuse white standard surface was measured under the same conditions and reflectance was calculated by dividing stimulus spectra by the white standard spectrum. (B) The spectral irradiance of the light source used in the “high” (solid line) and “low” (dashed line) light intensity experiments. Irradiance values are plotted on a log scale. Irradiance was measured with a cosine corrected irradiance probe placed directly on the surface of the stimulus card and oriented horizontally away from the card surface, so that it measured light striking the surface of the stimulus card. The system was calibrated for irradiance units with a *LICOR* Li-1800 irradiance/radiance calibration lamp.

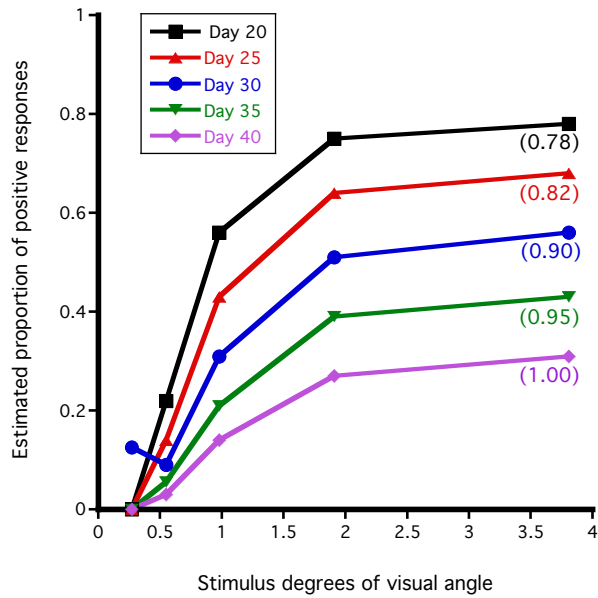


Fig. S2. Summary of the effect of time (days in captivity) on response probability in the low light experiment. Mean responses are estimated for days 20-40, in five-day increments, based on the general linear model described in the text. The estimated detection threshold (the stimulus angle for response probability equal to half the maximum value) is shown in parentheses for each day. Taking the effects of days in captivity into account produced threshold estimates that varied from 0.78 to 1.00 degrees of visual angle. Averaging these values across time as in Figure 2B of the main text yielded a threshold estimate of 0.85 degrees visual angle.

TABLE S1
Summary of results

1 = gaze shift toward stimulus
0 = no gaze shift

stimulus	width of one cycle (degrees visual angle)
a	0.27
b	0.55
c	0.98
d	1.91
e	3.81

EXPERIMENT 1: High Light Intensity

lizard #	stimulus	response	date(2013)
1 b	1	1	4-Oct
1 a	0	0	4-Oct
1 d	1	1	4-Oct
1 c	1	1	7-Oct
1 e	1	1	7-Oct
1 c	0	0	7-Oct
1 b	0	0	9-Oct
1 a	0	0	9-Oct
1 e	1	1	9-Oct
1 d	0	0	11-Oct
1 d	1	1	11-Oct
1 c	1	1	11-Oct
1 b	0	0	16-Oct
1 a	0	0	16-Oct
1 e	1	1	13-Nov
1 c	1	1	13-Nov
1 d	1	1	15-Nov
1 b	1	1	15-Nov
1 a	0	0	21-Nov
1 e	1	1	21-Nov
1 c	0	0	23-Nov
1 d	1	1	23-Nov
1 a	1	1	25-Nov
1 b	0	0	25-Nov
1 e	1	1	25-Nov
2 d	1	1	4-Oct
2 c	1	1	4-Oct
2 b	0	0	4-Oct

Experiment 2: Low Light Intensity

lizard #	STIMULUS	response	date(2013)
1 b	0	0	13-Jan
1 a	0	0	13-Jan
1 d	1	1	15-Jan
1 c	0	0	15-Jan
1 e	0	0	20-Jan
1 c	0	0	20-Jan
1 b	0	0	22-Jan
1 a	0	0	22-Jan
1 e	1	1	24-Jan
1 d	1	1	24-Jan
1 d	1	1	27-Jan
1 c	1	1	27-Jan
1 b	0	0	29-Jan
1 a	0	0	29-Jan
1 e	0	0	1-Feb
1 c	0	0	1-Feb
1 d	0	0	3-Feb
1 b	1	1	3-Feb
1 a	0	0	5-Feb
1 e	1	1	5-Feb
1 c	0	0	7-Feb
1 d	0	0	7-Feb
1 a	0	0	10-Feb
1 b	0	0	10-Feb
1 e	1	1	12-Feb
2 d	1	1	13-Jan
2 c	0	0	13-Jan
2 b	1	1	15-Jan

2 a	0	7-Oct	2 a	0	15-Jan
2 e	0	7-Oct	2 e	0	20-Jan
2 a	0	7-Oct	2 d	0	20-Jan
2 b	0	9-Oct	2 c	1	22-Jan
2 e	1	9-Oct	2 b	0	22-Jan
2 d	0	9-Oct	2 e	0	24-Jan
2 c	0	11-Oct	2 a	0	24-Jan
2 e	1	11-Oct	2 c	0	27-Jan
2 c	0	11-Oct	2 a	0	27-Jan
2 a	0	16-Oct	2 b	0	29-Jan
2 d	1	16-Oct	2 e	1	29-Jan
2 b	0	13-Nov	2 d	1	1-Feb
2 b	0	13-Nov	2 b	0	1-Feb
2 a	0	15-Nov	2 c	1	3-Feb
2 e	1	15-Nov	2 d	0	3-Feb
2 d	1	21-Nov	2 e	0	5-Feb
2 c	0	21-Nov	2 a	0	5-Feb
2 a	0	23-Nov	2 a	0	7-Feb
2 d	0	23-Nov	2 d	1	7-Feb
2 b	0	25-Nov	2 b	0	10-Feb
2 e	1	25-Nov	2 e	0	10-Feb
2 c	0	25-Nov	2 c	0	12-Feb
3 d	1	4-Oct	3 d	1	13-Jan
3 c	1	4-Oct	3 c	0	13-Jan
3 a	0	4-Oct	3 a	0	15-Jan
3 e	0	7-Oct	3 e	1	15-Jan
3 b	0	7-Oct	3 b	0	20-Jan
3 a	0	7-Oct	3 a	0	20-Jan
3 b	0	9-Oct	3 b	0	22-Jan
3 e	1	9-Oct	3 e	0	22-Jan
3 d	0	9-Oct	3 d	0	24-Jan
3 c	0	11-Oct	3 c	0	24-Jan
3 e	0	11-Oct	3 e	0	27-Jan
3 c	0	11-Oct	3 c	0	27-Jan
3 a	0	16-Oct	3 a	0	29-Jan
3 d	1	16-Oct	3 d	0	29-Jan
3 d	1	13-Nov	3 b	0	1-Feb
3 b	0	13-Nov	3 b	0	1-Feb
3 a	0	15-Nov	3 a	0	3-Feb
3 e	1	15-Nov	3 e	1	3-Feb
3 d	1	21-Nov	3 d	0	5-Feb
3 c	0	21-Nov	3 c	0	5-Feb
3 a	0	23-Nov	3 a	0	7-Feb

3 b	0	23-Nov	3 b	0	7-Feb
3 d	1	25-Nov	3 d	0	10-Feb
3 e	1	25-Nov	3 e	0	10-Feb
3 c	0	25-Nov	3 c	0	12-Feb
4 c	1	4-Oct	4 c	1	13-Jan
4 e	0	4-Oct	4 e	1	13-Jan
4 b	1	4-Oct	4 b	0	15-Jan
4 d	1	7-Oct	4 d	1	15-Jan
4 a	0	7-Oct	4 a	0	20-Jan
4 a	0	7-Oct	4 a	0	20-Jan
4 d	1	9-Oct	4 d	1	22-Jan
4 e	0	9-Oct	4 e	1	22-Jan
4 c	1	9-Oct	4 c	0	24-Jan
4 b	1	11-Oct	4 b	0	24-Jan
4 e	1	11-Oct	4 e	0	27-Jan
4 a	0	11-Oct	4 a	0	27-Jan
4 c	0	16-Oct	4 c	0	29-Jan
4 b	0	16-Oct	4 b	0	29-Jan
4 d	1	13-Nov	4 d	0	1-Feb
4 b	0	13-Nov	4 b	0	1-Feb
4 c	1	15-Nov	4 c	0	3-Feb
4 a	0	15-Nov	4 a	0	3-Feb
4 e	1	21-Nov	4 e	1	5-Feb
4 d	0	21-Nov	4 d	0	5-Feb
4 d	1	23-Nov	4 d	0	7-Feb
4 c	1	23-Nov	4 c	0	7-Feb
4 b	0	25-Nov	4 b	0	10-Feb
4 a	0	25-Nov	4 a	0	10-Feb
4 e	1	25-Nov	4 e	0	12-Feb
5 b	0	4-Oct	5 c	1	13-Jan
5 e	1	4-Oct	5 d	1	13-Jan
5 a	0	4-Oct	5 a	0	15-Jan
5 d	1	7-Oct	5 b	0	15-Jan
5 c	1	7-Oct	5 e	1	20-Jan
5 d	1	7-Oct	5 c	0	20-Jan
5 c	0	9-Oct	5 a	0	22-Jan
5 e	1	9-Oct	5 e	1	22-Jan
5 b	1	9-Oct	5 d	1	24-Jan
5 a	0	11-Oct	5 b	0	24-Jan
5 c	1	11-Oct	5 a	0	27-Jan
5 b	1	11-Oct	5 e	1	27-Jan
5 e	1	16-Oct	5 d	0	29-Jan
5 a	0	16-Oct	5 b	0	29-Jan

5 d	1	13-Nov	5 c	0	1-Feb
5 e	1	13-Nov	5 a	0	1-Feb
5 c	0	15-Nov	5 e	0	3-Feb
5 a	0	15-Nov	5 c	0	3-Feb
5 d	1	21-Nov	5 b	0	5-Feb
5 b	1	21-Nov	5 d	0	5-Feb
5 c	1	23-Nov	5 a	0	7-Feb
5 e	1	23-Nov	5 c	0	7-Feb
5 b	1	25-Nov	5 e	0	10-Feb
5 d	1	25-Nov	5 d	0	10-Feb
5 a	0	25-Nov	5 b	0	12-Feb
6 e	1	4-Oct	6 e	1	13-Jan
6 b	1	4-Oct	6 d	1	13-Jan
6 a	0	4-Oct	6 b	1	15-Jan
6 d	1	7-Oct	6 c	1	15-Jan
6 c	1	7-Oct	6 a	0	20-Jan
6 a	0	7-Oct	6 c	1	20-Jan
6 e	1	9-Oct	6 b	0	22-Jan
6 d	1	9-Oct	6 e	0	22-Jan
6 b	0	9-Oct	6 d	0	24-Jan
6 c	1	11-Oct	6 a	0	24-Jan
6 b	1	11-Oct	6 e	0	27-Jan
6 a	1	11-Oct	6 a	1	27-Jan
6 e	1	16-Oct	6 b	0	29-Jan
6 c	1	16-Oct	6 d	0	29-Jan
6 d	1	13-Nov	6 c	0	1-Feb
6 b	1	13-Nov	6 d	0	1-Feb
6 c	1	15-Nov	6 c	0	3-Feb
6 a	0	15-Nov	6 a	0	3-Feb
6 d	1	21-Nov	6 b	0	5-Feb
6 e	1	21-Nov	6 e	0	5-Feb
6 c	0	23-Nov	6 b	0	7-Feb
6 e	1	23-Nov	6 d	0	7-Feb
6 d	1	25-Nov	6 c	0	10-Feb
6 a	0	25-Nov	6 a	0	10-Feb
6 b	0	25-Nov	6 e	1	12-Feb
7 c	1	4-Oct	7 b	0	13-Jan
7 d	1	4-Oct	7 c	1	13-Jan
7 a	0	4-Oct	7 a	0	15-Jan
7 b	1	7-Oct	7 d	0	15-Jan
7 e	1	7-Oct	7 e	1	20-Jan
7 c	0	7-Oct	7 c	1	20-Jan
7 a	0	9-Oct	7 b	1	22-Jan

7 e	1	9-Oct	7 e	0	22-Jan
7 d	0	9-Oct	7 d	1	24-Jan
7 b	0	11-Oct	7 a	0	24-Jan
7 a	0	11-Oct	7 b	0	27-Jan
7 e	1	11-Oct	7 a	0	27-Jan
7 d	1	16-Oct	7 c	1	29-Jan
7 b	0	16-Oct	7 e	0	29-Jan
7 c	0	13-Nov	7 d	1	1-Feb
7 a	0	13-Nov	7 e	1	1-Feb
7 e	1	15-Nov	7 d	1	3-Feb
7 c	1	15-Nov	7 c	0	3-Feb
7 b	1	21-Nov	7 b	0	5-Feb
7 d	1	21-Nov	7 a	0	5-Feb
7 a	1	23-Nov	7 b	0	7-Feb
7 c	1	23-Nov	7 d	0	7-Feb
7 e	1	25-Nov	7 e	0	10-Feb
7 d	1	25-Nov	7 c	0	10-Feb
7 b	0	25-Nov	7 a	0	12-Feb
8 e	1	4-Oct	8 a	0	13-Jan
8 d	1	4-Oct	8 b	0	13-Jan
8 b	1	4-Oct	8 c	1	15-Jan
8 c	1	7-Oct	8 e	1	15-Jan
8 a	0	7-Oct	8 d	1	20-Jan
8 c	1	7-Oct	8 d	1	20-Jan
8 b	0	9-Oct	8 b	0	22-Jan
8 e	1	9-Oct	8 a	0	22-Jan
8 d	1	9-Oct	8 c	1	24-Jan
8 a	0	11-Oct	8 e	1	24-Jan
8 e	1	11-Oct	8 b	0	27-Jan
8 a	1	11-Oct	8 d	0	27-Jan
8 b	0	16-Oct	8 c	0	29-Jan
8 d	0	16-Oct	8 a	0	29-Jan
8 c	0	13-Nov	8 e	1	1-Feb
8 d	1	13-Nov	8 e	0	1-Feb
8 c	1	15-Nov	8 b	0	3-Feb
8 a	0	15-Nov	8 a	0	3-Feb
8 b	0	21-Nov	8 d	1	5-Feb
8 e	1	21-Nov	8 c	0	5-Feb
8 b	0	23-Nov	8 b	0	7-Feb
8 d	1	23-Nov	8 c	0	7-Feb
8 c	0	25-Nov	8 a	0	10-Feb
8 a	0	25-Nov	8 d	0	10-Feb
8 e	1	25-Nov	8 e	0	12-Feb

9 b	0	4-Oct
9 c	1	4-Oct
9 a	0	4-Oct
9 d	1	7-Oct
9 e	1	7-Oct
9 c	0	7-Oct
9 b	0	9-Oct
9 e	1	9-Oct
9 d	0	9-Oct
9 a	0	11-Oct
9 b	0	11-Oct
9 a	0	11-Oct
9 c	0	16-Oct
9 e	0	16-Oct
9 d	0	13-Nov
9 e	0	13-Nov
9 d	0	15-Nov
9 c	0	15-Nov
9 b	0	21-Nov
9 a	0	21-Nov
9 b	0	23-Nov
9 d	1	23-Nov
9 e	1	25-Nov
9 c	0	25-Nov
9 a	0	25-Nov
10 a	0	4-Oct
10 b	1	4-Oct
10 c	1	4-Oct
10 e	1	7-Oct
10 d	1	7-Oct
10 d	1	7-Oct
10 b	1	9-Oct
10 a	0	9-Oct
10 c	1	9-Oct
10 e	1	11-Oct
10 b	0	11-Oct
10 d	0	11-Oct
10 c	0	16-Oct
10 a	0	16-Oct
10 e	1	13-Nov
10 e	0	13-Nov
10 b	0	15-Nov
10 a	0	15-Nov

10 d	1	21-Nov
10 c	0	21-Nov
10 b	1	23-Nov
10 c	0	23-Nov
10 a	0	25-Nov
10 d	1	25-Nov
10 e	1	25-Nov