lighting	dim	angle°	90

Measuring different distances under dim light and a right angle

color	red											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	36	21	22	33	18	19	21	15	15	21	12	15
10-20	39	18	21	36	18	19	21	12	15	21	12	15
20-30	42	18	19	39	18	18	27	12	13	21	12	13
30-40	42	15	18	36	15	18	27	12	13	21	15	15
40-50	42	15	16	36	15	18	24	12	13	21	12	15
50-60	33	15	16	33	12	16	21	12	15	18	12	

color	blue											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	24	30	27	21	24	22	15	21	16	15	18	16
10-20	24	30	25	21	27	24	15	24	18	15	18	16
20-30	24	30	25	21	30	22	18	24	18	15	21	16
30-40	18	30	25	18	30	22	15	24	18	15	18	15
40-50	15	30	24	15	27	22	15	24	18	15	18	16
50-60	15	24	21	18	24	21	15	21	16	15	18	16

color	green											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	24	21	27	21	18	22	15	15	19	15	15	16
10-20	27	21	28	21	18	24	15	15	19	12	15	18
20-30	27	24	28	21	21	25	15	15	19	12	12	16
30-40	24	18	27	21	21	24	15	12	21	12	15	18
40-50	21	21	25	18	18	25	15	12	19	15	15	16
50-60	21	18	24	21	18	22	15	12	19	15	12	16

lighting	well	angle°	90

measuring different distances under very good lighting and a right angle

color	red											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	36	12	18	30	12	15	24	12	13	24	12	13
10-20	39	15	16	36	12	13	24	12	13	24	12	13
20-30	42	15	18	36	12	15	27	12	13	27	12	13
30-40	42	15	18	39	12	13	30	12	13	27	12	13
40-50	42	12	16	39	12	13	24	12	15	24	12	13
50-60	36	15	18	33	12	15	24	12	13	24	12	15

color	blue											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	21	30	25	12	24	21	12	18	16	12	18	16
10-20	21	33	25	15	27	21	12	18	16	12	18	16
20-30	21	36	25	15	30	21	15	18	16	15	18	16
30-40	21	33	25	15	30	19	12	21	16	15	18	16
40-50	24	33	25	15	27	19	15	21	16	12	18	16
50-60	24	30	25	15	27	21	12	18	16	15	18	16

color	green											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	18	15	25	15	12	21	15	12	16	12	12	18
10-20	21	15	24	15	15	24	15	15	16	15	12	16
20-30	21	15	27	18	12	22	15	15	18	15	12	18
30-40	21	15	28	15	12	24	12	12	19	12	12	18
40-50	21	15	27	18	15	22	15	12	19	15	12	16
50-60	21	15	27	15	12	22	15	12	18	15	12	16

lighting	well	distance	10 cm

measuring different angles under very good lighting and a fixed distance of 10cm

color	red											
angle	80°			60°			45°			30°		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	30	12	15	27	12	13	24	12	13	18	12	15
10-20	33	12	15	27	12	13	27	12	13	18	12	15
20-30	39	12	15	30	12	13	30	12	13	21	12	15
30-40	39	9	15	30	12	13	27	12	15	21	12	16
40-50	36	12	15	30	12	15	27	15	13	21	12	15
50-60	33	12	16	30	12	15	27	15	15	18	12	16

lighting	well	angle°	90

measurements with a different e-puck under very good lighting and a right angle

color	red											
distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
Pixel-nr.												
0-10	30	18	24	27	12	15	21	12	13	18	12	13
10-20	33	21	22	30	15	15	24	12	13	18	12	13
20-30	36	21	24	33	12	13	24	12	13	21	15	13
30-40	33	21	24	33	15	15	21	12	15	18	15	13
40-50	33	21	24	30	12	15	24	12	13	21	12	13
50-60	30	18	22	27	12	15	21	15	15	18	12	13

Results (tables)

Camera values for different distances in dim light and a right angle (average over all 60 pixels)

distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
color												
red	39	17	18.667	35.5	16	18	23.5	12.5	14	20.5	12.5	14.6
blue	20	29	24.5	19	27	22.167	15.5	23	17.333	15	18.5	15.833
green	24	20.5	26.5	20.5	19	23.667	15	13.5	19.333	13.5	14	16.667

Camera values for different distances under very good lighting and a right angle (average over all 60 pixels)

distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
color												
red	39.5	14	17.333	35.5	12	14	25.5	12	13.333	25	12	13.333
blue	22	32.5	25	14.5	27.5	20.333	13	19	16	13.5	18	16
green	20.5	15	26.333	16	13	22.5	14.5	13	17.667	14	12	17

Camera values for different distances under very good lighting and a right angle with a different e-puck (average over all 60 pixels)

distance	5 cm			10 cm			15 cm			20 cm		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
color												
red	32.5	20	23.333	30	13	14.667	22.5	12.5	13.667	19	13	13

Camera values for different angles under very good light and a fixed distance over 10cm (average over all 60 pixels)

angle	80°			60°			45°			30°		
camera	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green	cam.red	cam.blue	cam.green
color												
red	35	11.5	15.167	29	12	13.667	27	13	13.667	19.5	12	15.333

Results (charts)