

# Monochrome and Color Polarization Demosaicking Using Edge-Aware Residual Interpolation

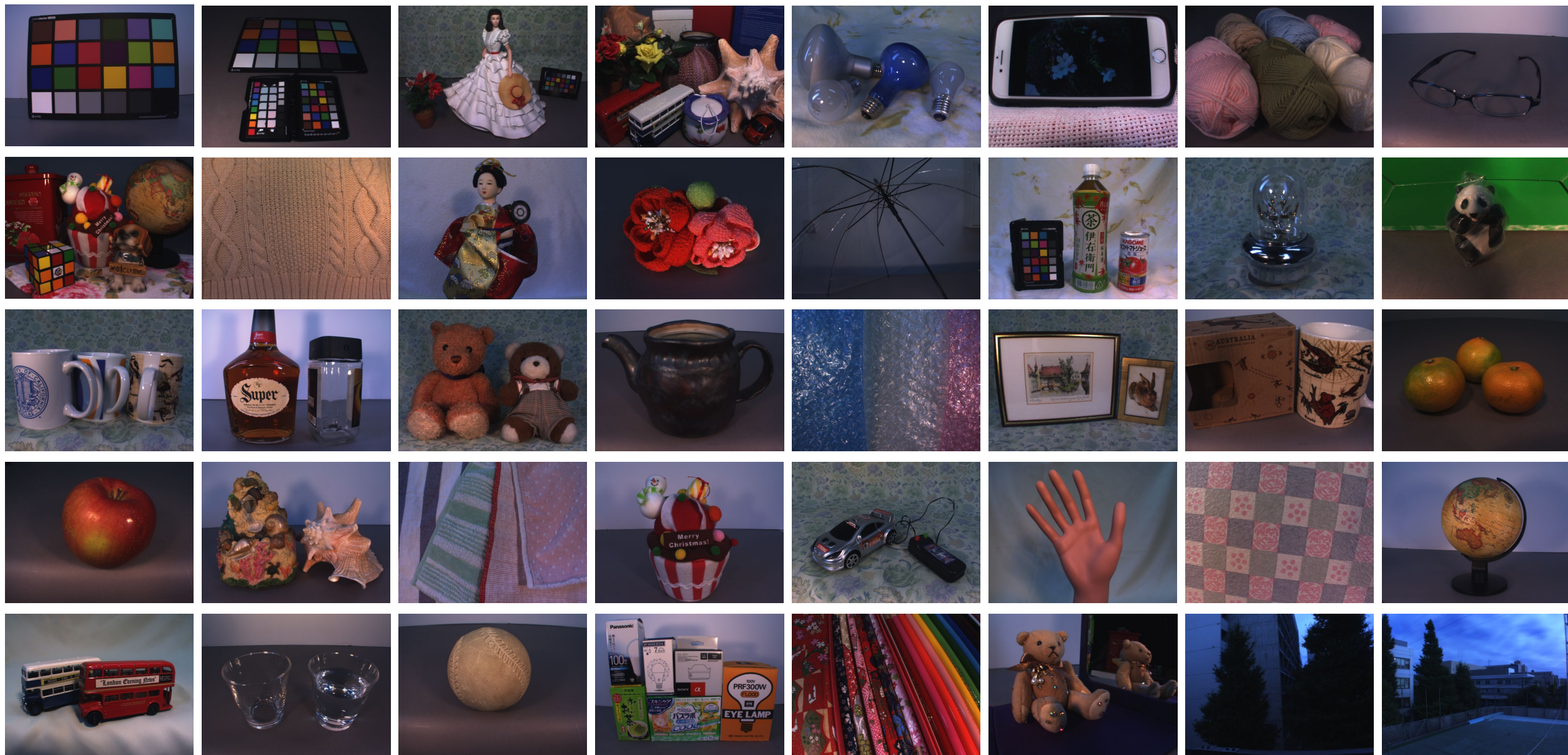
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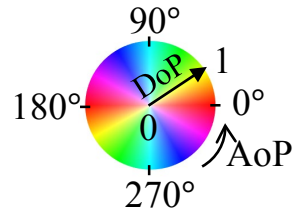
Supplementary Materials

# Dataset (Intensity)





# Dataset (AoP-DoP visualization of G channel)

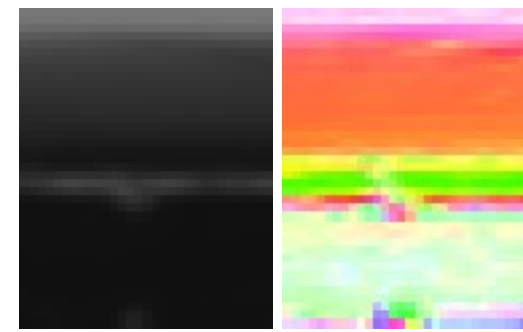
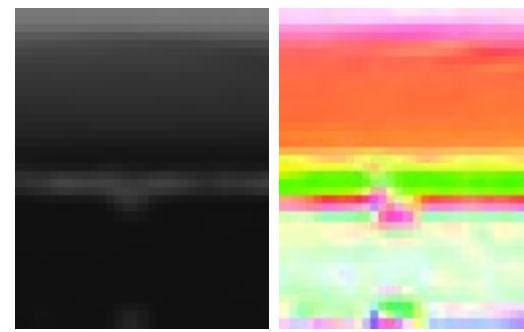
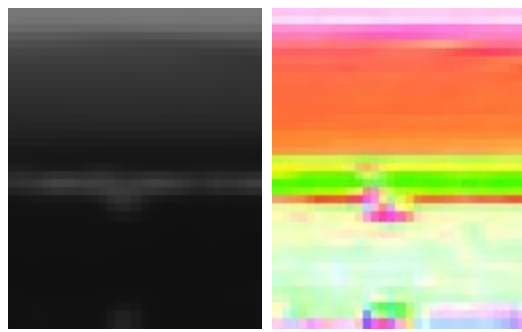
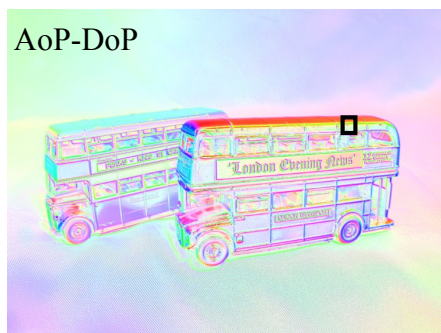




# Experimental Results (Monochrome)

Method	PSNR								Angle error
	$I_0$	$I_{45}$	$I_{90}$	$I_{135}$	$S_0$	$S_1$	$S_2$	DoP	AoP
Bilinear	42.34	41.58	42.50	41.58	44.89	46.14	45.03	33.70	21.36
Bicubic	43.45	42.48	43.63	42.48	46.22	47.00	45.73	34.46	20.64
ICPC [11]	43.10	42.22	43.23	42.22	45.78	47.01	45.73	34.75	20.50
PPID [6]	46.52	44.52	46.91	44.34	48.94	50.56	47.59	<b>36.96</b>	17.65
EARI (Ours)	<b>47.39</b>	<b>44.91</b>	<b>47.84</b>	<b>44.63</b>	<b>49.62</b>	<b>51.48</b>	<b>47.83</b>	36.79	<b>17.13</b>
non-edge-aware	47.01	44.68	47.41	44.46	49.27	51.02	47.70	36.25	17.44

# Experimental Results (Monochrome)

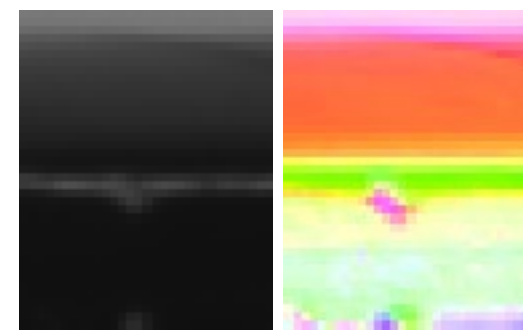
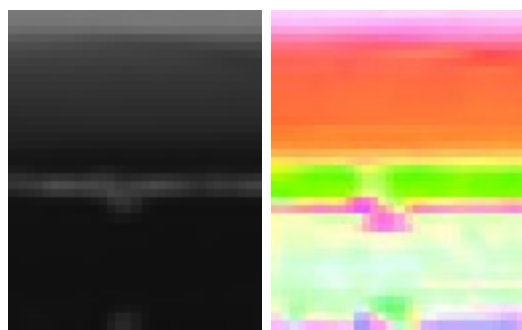
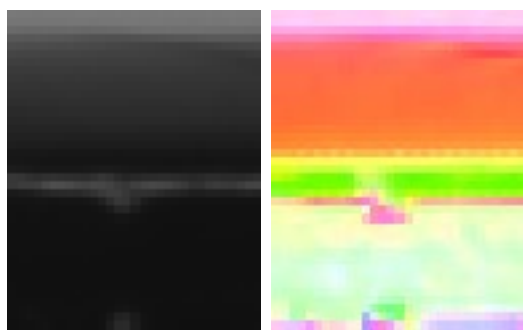
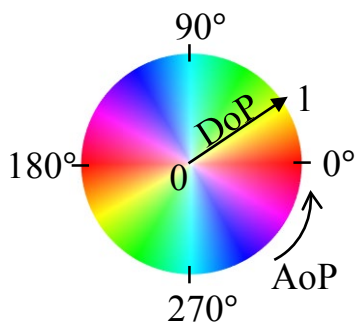


Full ground-truth images

Bilinear

Bicubic

ICPC



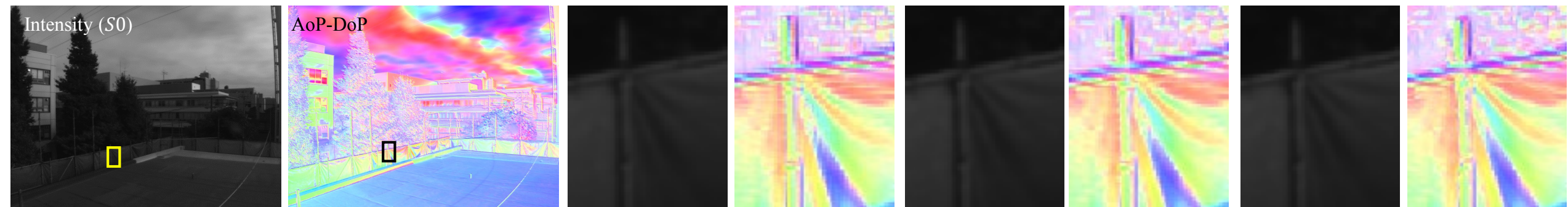
PPID

RI (non-edge-aware)

EARI (Ours)

Ground truth

# Experimental Results (Monochrome)

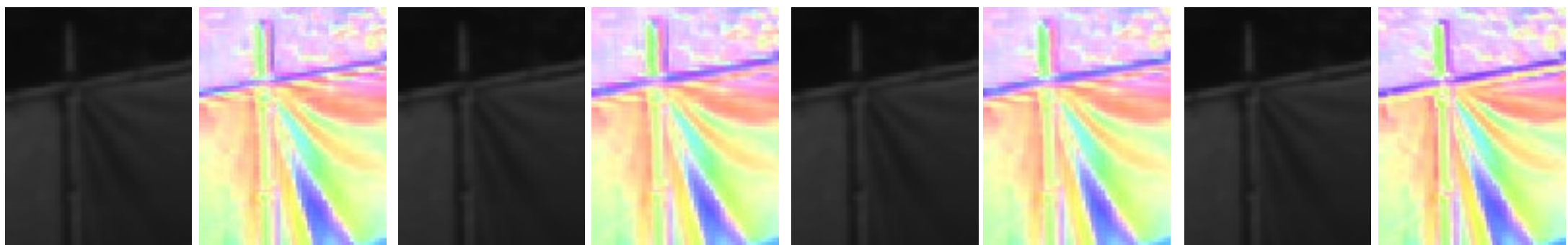
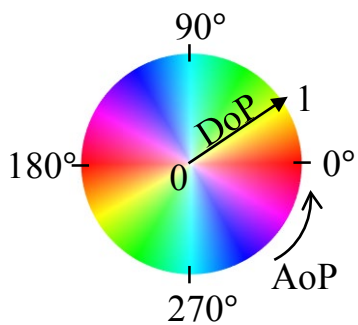


Full ground-truth images

Bilinear

Bicubic

ICPC



PPID

RI (non-edge-aware)

EARI (Ours)

Ground Truth

# Experimental Results (Color)

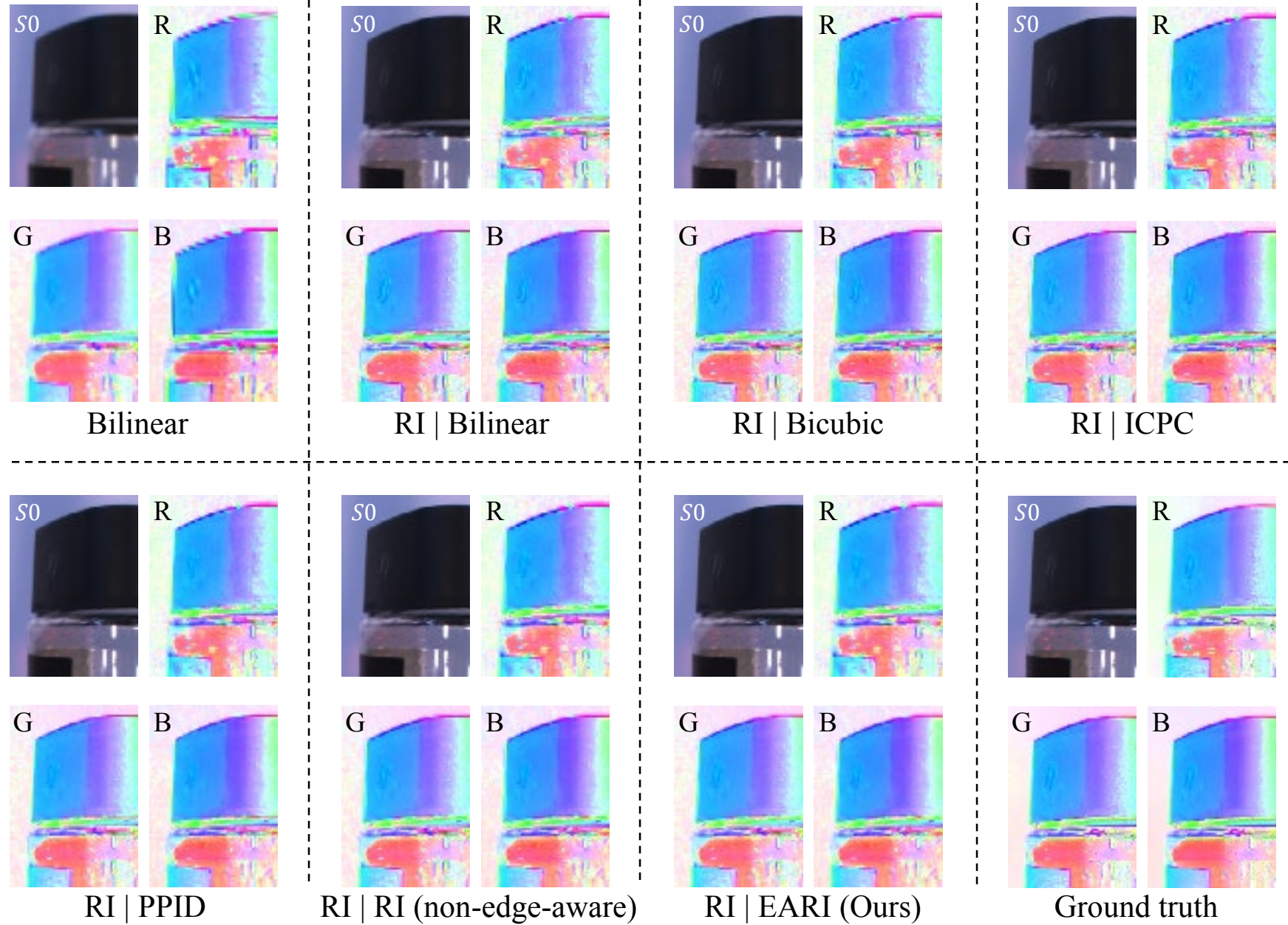
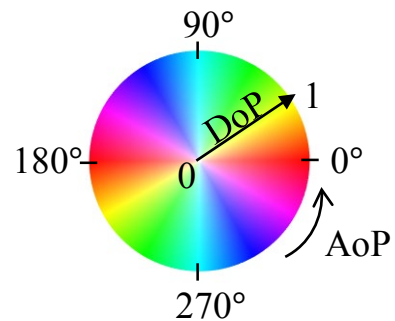
Method (color   polarization)		CPSNR							Angle error	
		$I_0$	$I_{45}$	$I_{90}$	$I_{135}$	$S_0$	$S_1$	$S_2$	DoP	AoP
Bilinear		35.32	34.94	35.47	35.00	36.31	43.29	41.28	31.20	24.98
RI	Bilinear	38.34	37.79	38.50	37.86	40.03	44.09	42.58	31.96	24.15
	Bicubic	38.65	38.05	38.81	38.12	40.43	44.30	42.72	32.05	24.11
	ICPC [11]	38.61	38.01	38.77	38.09	40.33	44.49	42.87	32.36	23.86
	PPID [6]	39.37	38.68	39.57	38.71	40.73	46.34	44.04	<b>33.98</b>	22.40
	EARI (Ours)	<b>39.41</b>	<b>38.72</b>	<b>39.62</b>	<b>38.72</b>	<b>40.76</b>	<b>46.49</b>	<b>44.10</b>	33.74	<b>22.18</b>
non-edge-aware		39.35	38.65	39.55	38.67	40.73	46.28	43.97	33.36	22.32



# Experimental Results (Color)

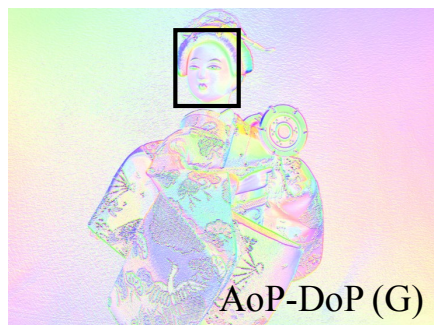


Full ground-truth images

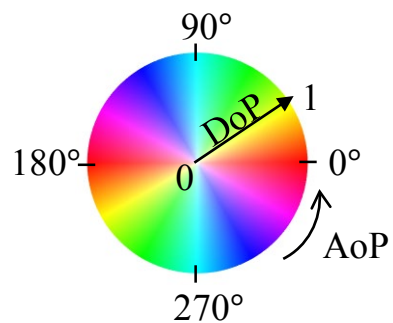




# Experimental Results (Color)



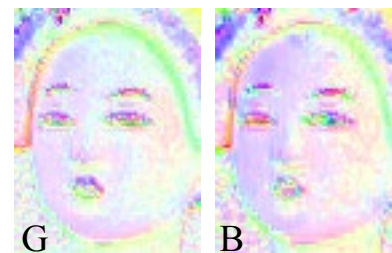
Full ground-truth images



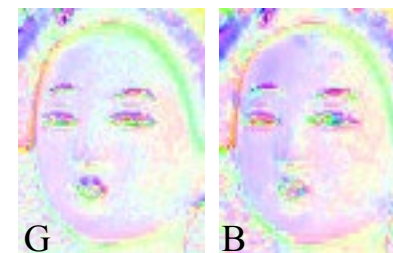
Bilinear



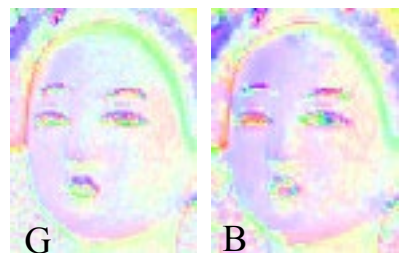
RI | Bilinear



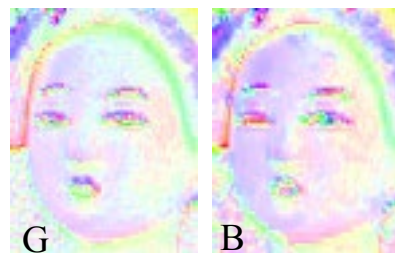
RI | Bicubic



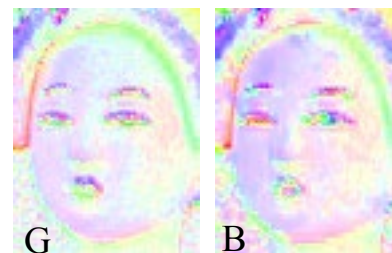
RI | ICPC



RI | PPID



RI | RI (non-edge-aware)



RI | EARI (Ours)



Ground truth