Dynamic Range Compression by Differential Zone Mapping Based on Psychophysical Experiments

Figure 1: Images used in the first experiment for the Archway HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
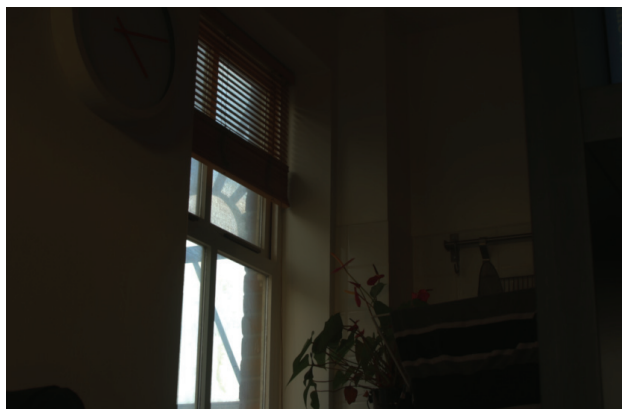
Figure 2: Images used in the first experiment for the Kitchen Window HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
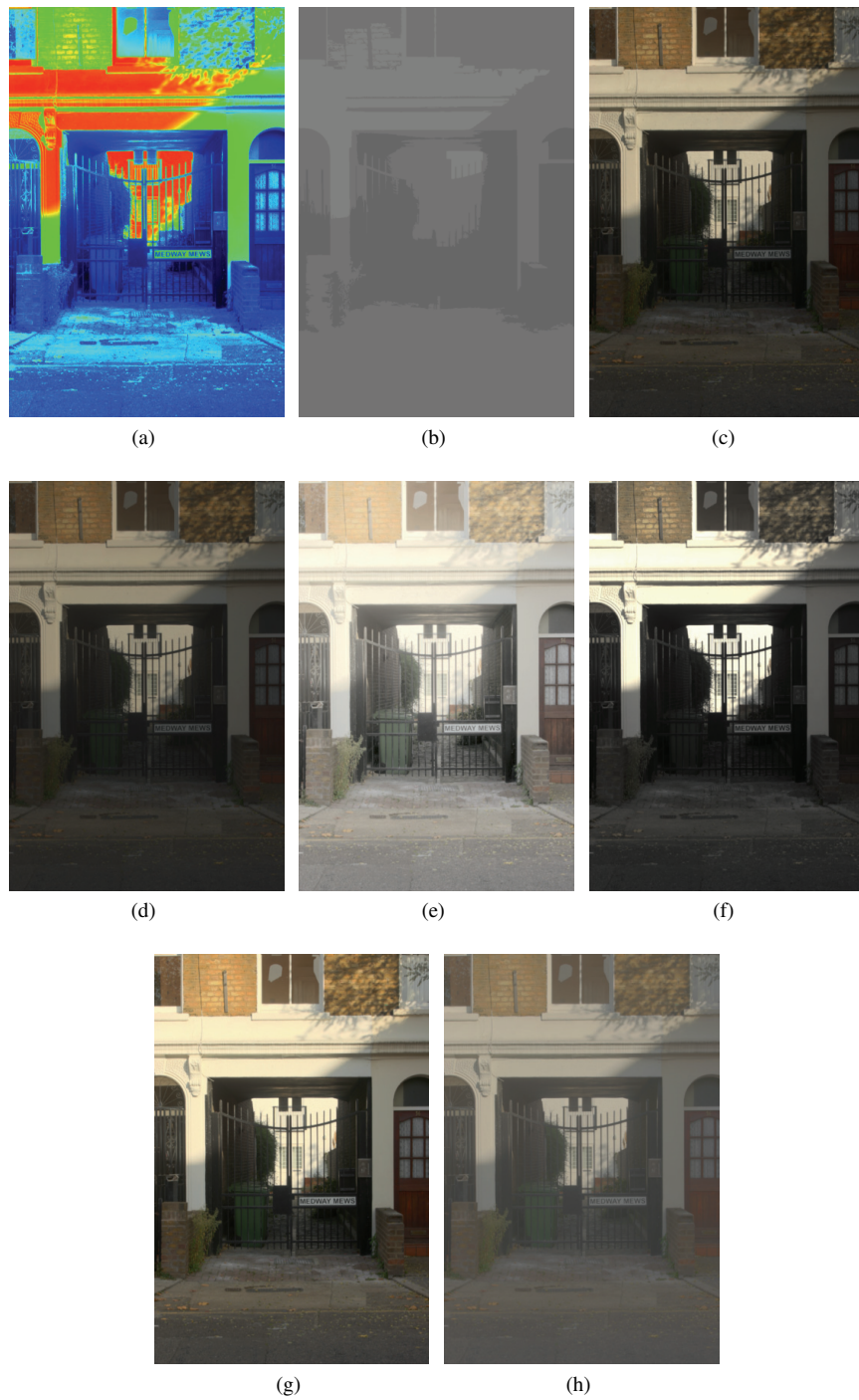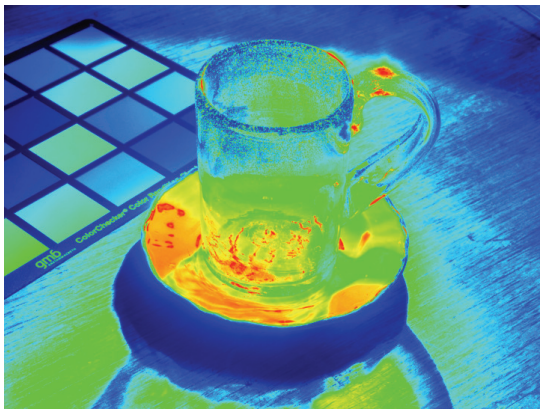
Figure 3: Images used in the first experiment for the Medway2 HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.

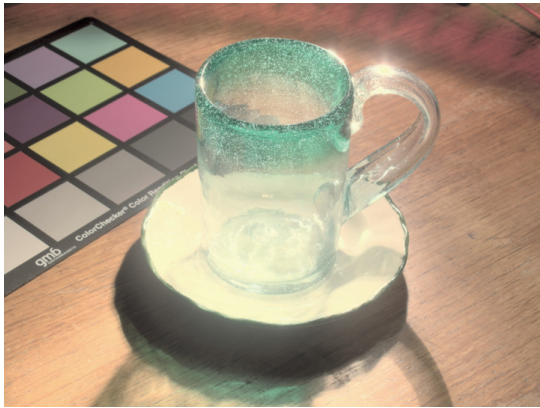Figure 4: Images used in the first experiment for the Mexican Mug HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
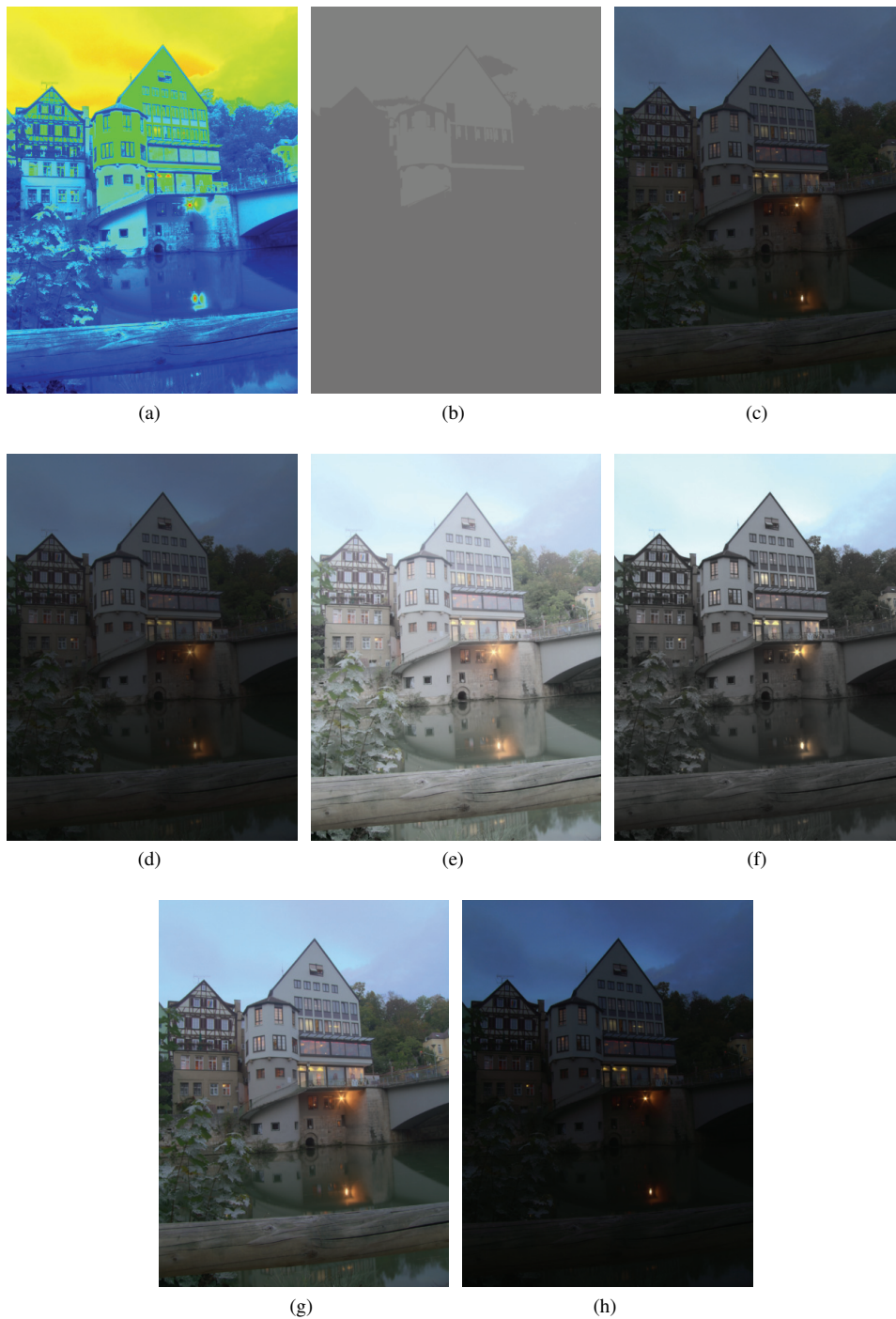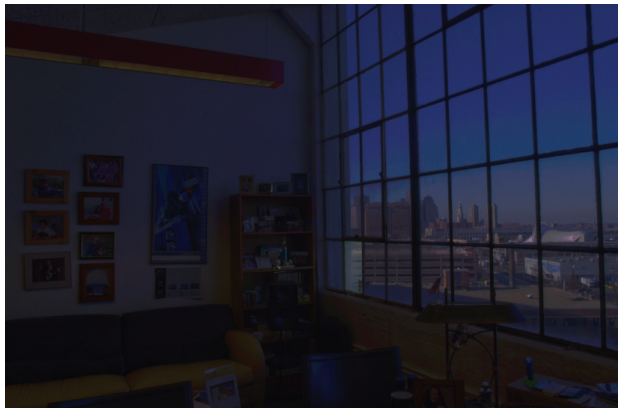
Figure 5: Images used in the first experiment for the Neckar Island HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
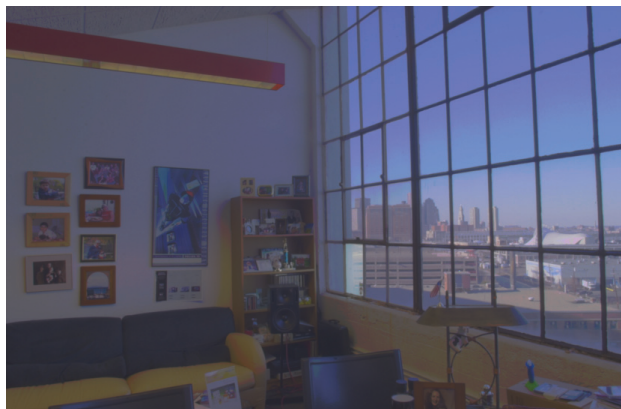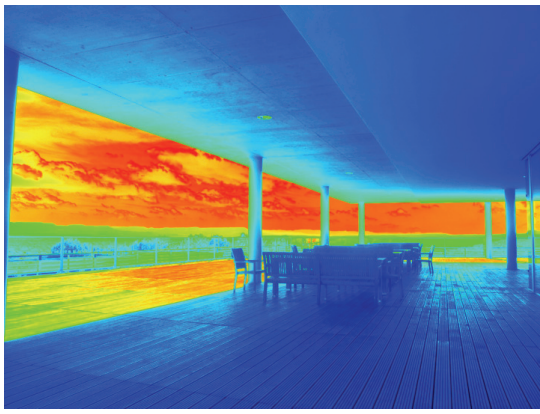
Figure 6: Images used in the first experiment for the Office HDR image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
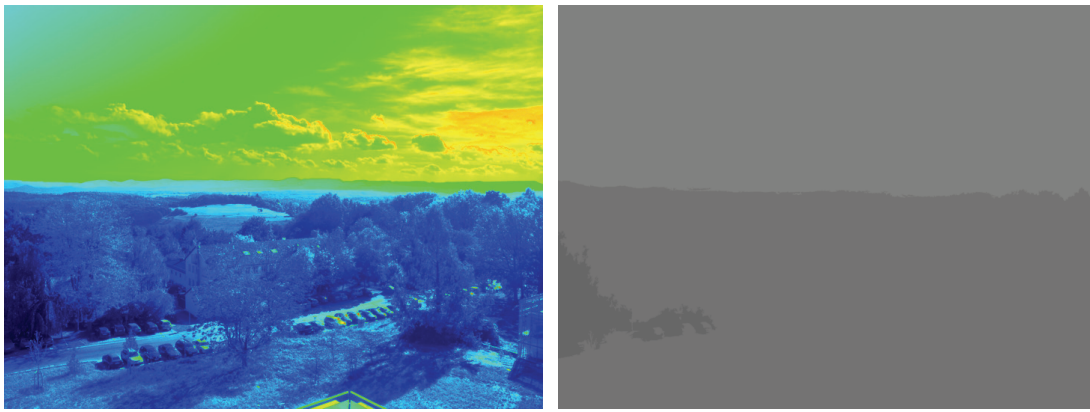
Figure 7: Images used in the first experiment for the Roof Top 2 image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
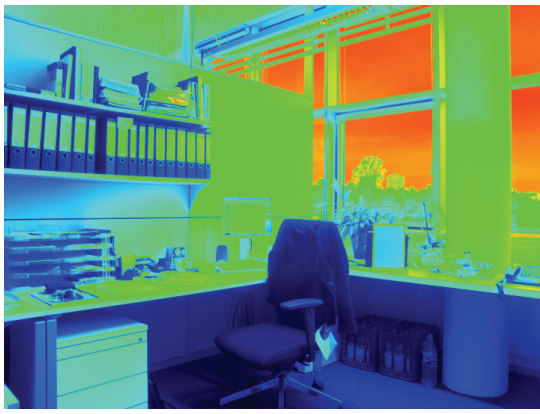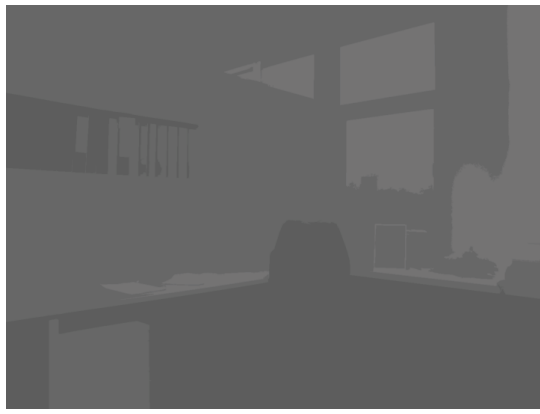
Figure 8: Images used in the first experiment for the Roof Top 1 image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.

Figure 9: Images used in the first experiment for the Room image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
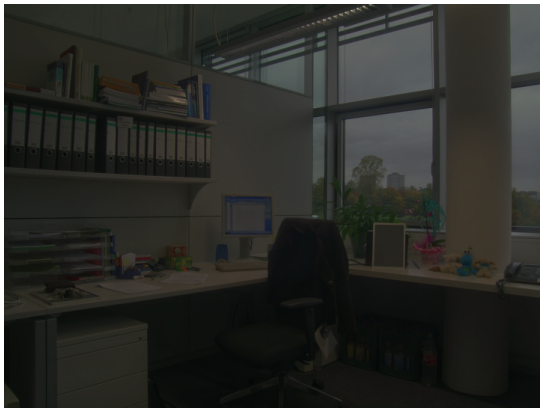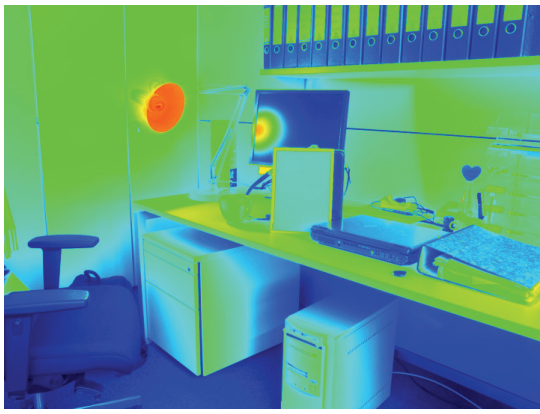
Figure 10: Images used in the first experiment for the Room 2 image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
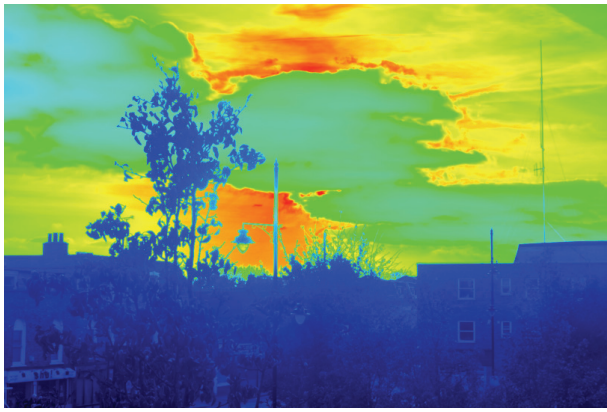
Figure 11: Images used in the first experiment for the Street Lamp image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
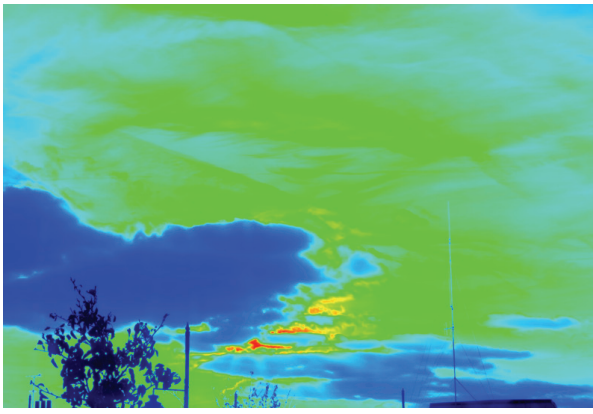
Figure 12: Images used in the first experiment for the Sunset 1 image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
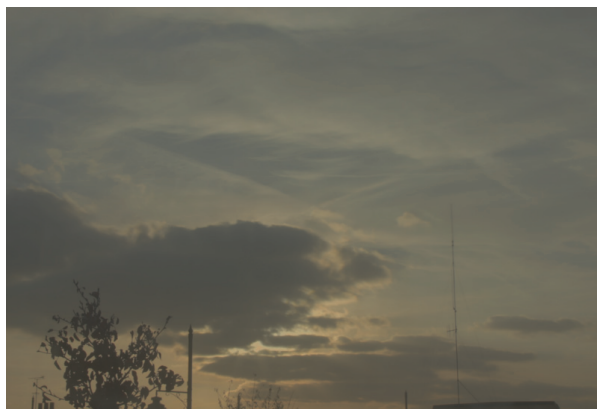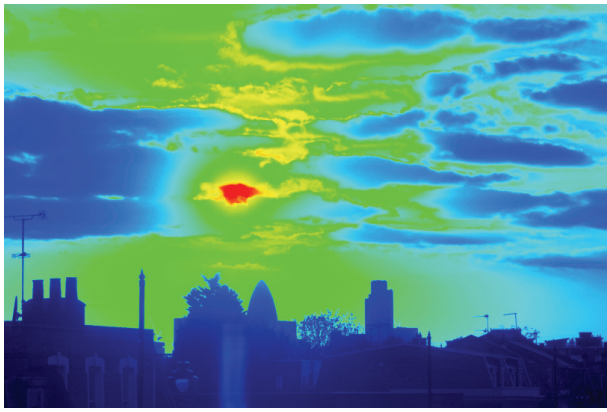
Figure 13: Images used in the first experiment for the Sunset 2 image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.
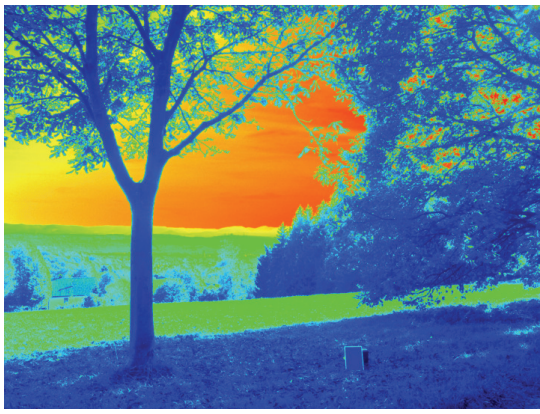
Figure 14: Images used in the first experiment for the Sunset Skyscrapers image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.

Figure 15: Images used in the first experiment for the Valley image: a) HDR image in false color. b) Segmented zones of the image. c) Tone mapped image using Bilateral Operator. d) Tone mapped image using Drago's Operator. e) Tone mapped image using Histogram Adjustment Operator. f) Tone mapped image using Pattanaik's Operator. g) Tone mapped image using LCIS' Operator.