

Supplemental Material for Pocket Reflectometry

Reference Materials Used in the BRDF Chart

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1. plaster	2. sliver paint	3. rubber	4. polished acrylic	5. aluminium	6. fluorescent paint
7. matte tape	8. black paper	9. polished resin	10. bronze	11. bronze metallic paint	12. acrylic
13. plastic	14. brass	15. coated metallic paint	16. polyethylene	17. red metallic paint	18. alumina
19. 80% Spectralon	20. leather	21. matte golden paint	22. alum-bronze	23. tinfoil	24. lactoprene

Figure 1: BRDF chart materials. Subsequent figures provide information for each of these 24 materials.

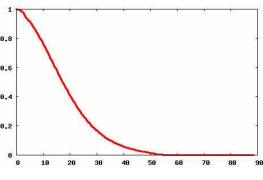
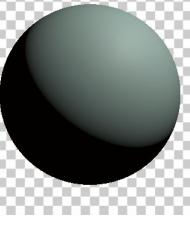
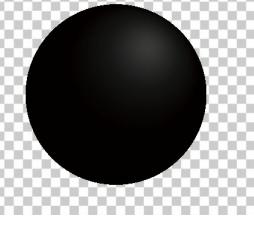
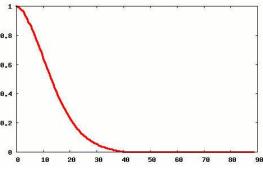
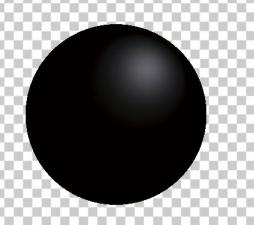
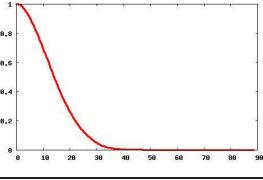
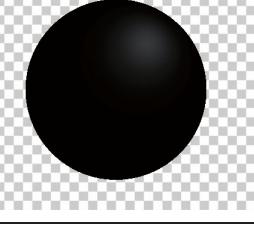
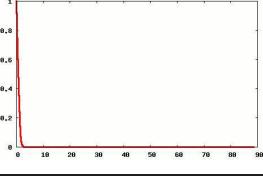
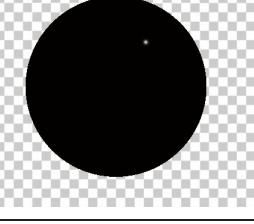
ID	Name	Source	NDF Plot	Appearance	Specular Component
1	plaster	Home Decoration; slab	 A red line graph showing the Normalized Difference Function (NDF) for plaster. The x-axis represents the angle in degrees from 0 to 90, and the y-axis represents the NDF value from 0.0 to 1.0. The curve starts at (0, 1.0) and decreases rapidly, reaching near zero by 40 degrees, and remaining low until 90 degrees.	 A sphere representing the appearance of plaster, showing a smooth gradient from light to dark gray with a visible highlight on the left side.	 A sphere representing the specular component of plaster, appearing as a solid black circle with a small white highlight on the left side.
2	silver paint	Auto Repair; touch-up paint	 A red line graph showing the NDF for silver paint. The x-axis represents the angle in degrees from 0 to 90, and the y-axis represents the NDF value from 0.0 to 1.0. The curve starts at (0, 1.0) and decreases rapidly, reaching near zero by 40 degrees, and remaining low until 90 degrees.	 A sphere representing the appearance of silver paint, showing a smooth gradient from light to dark gray with a visible highlight on the left side.	 A sphere representing the specular component of silver paint, appearing as a solid black circle with a small white highlight on the left side.
3	rubber	Auto Repair; tire	 A red line graph showing the NDF for rubber. The x-axis represents the angle in degrees from 0 to 90, and the y-axis represents the NDF value from 0.0 to 1.0. The curve starts at (0, 1.0) and decreases rapidly, reaching near zero by 40 degrees, and remaining low until 90 degrees.	 A sphere representing the appearance of rubber, showing a smooth gradient from light to dark gray with a visible highlight on the left side.	 A sphere representing the specular component of rubber, appearing as a solid black circle with a small white highlight on the left side.
4	polished acrylic	Supermarket; CD Case	 A red line graph showing the NDF for polished acrylic. The x-axis represents the angle in degrees from 0 to 90, and the y-axis represents the NDF value from 0.0 to 1.0. The curve starts at (0, 1.0) and decreases rapidly, reaching near zero by 40 degrees, and remaining low until 90 degrees.	 A sphere representing the appearance of polished acrylic, showing a smooth gradient from light to dark gray with a visible highlight on the left side.	 A sphere representing the specular component of polished acrylic, appearing as a solid black circle with a small white highlight on the left side.

Figure 2: Details of 24 reference materials (Part 1).

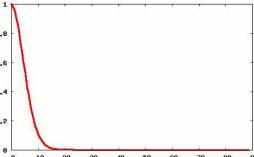
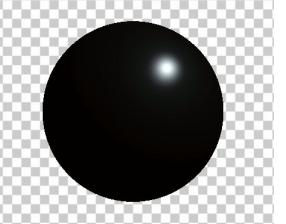
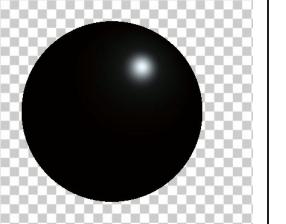
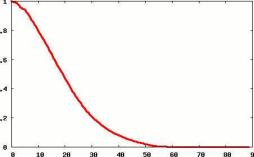
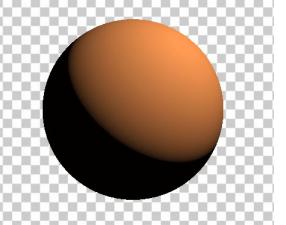
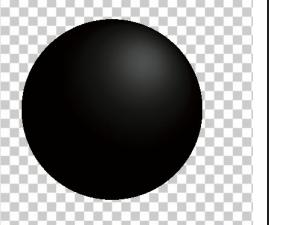
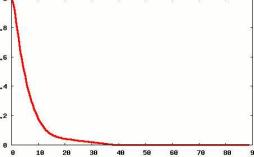
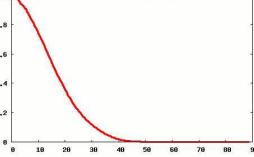
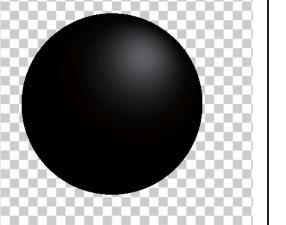
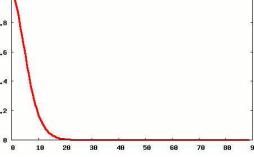
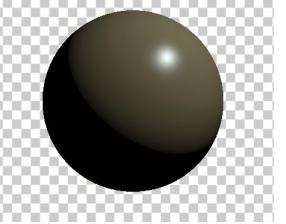
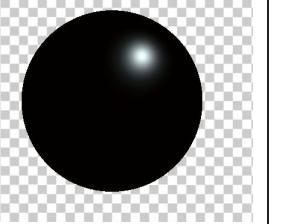
ID	Name	Source	NDF Plot	Appearance	Specular Component
5	aluminium	Supermarket; food container			
6	fluorescent paint	Home Decoration; wallpaper			
7	matte tape	Supermarket; duct tape			
8	black pa- per	Supermarket; paper			
9	polished resin	Supermarket; greeting card			

Figure 3: Details of 24 reference materials (Part 2).

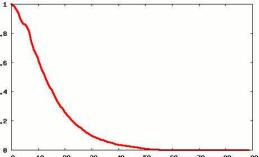
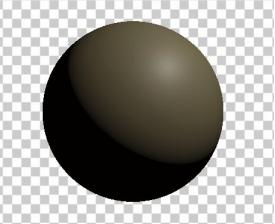
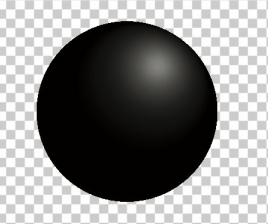
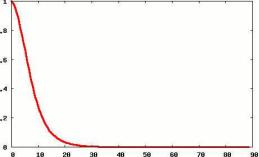
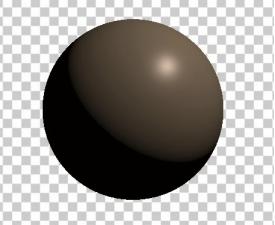
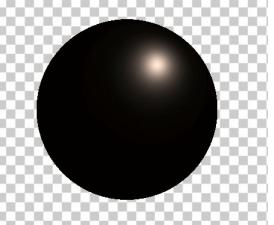
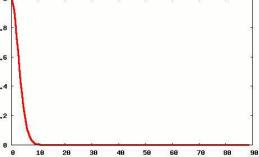
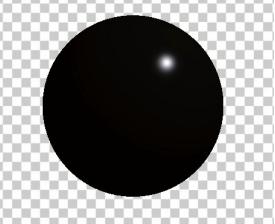
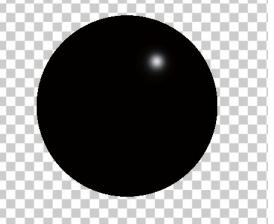
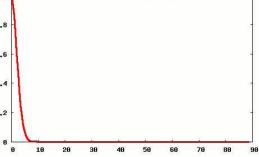
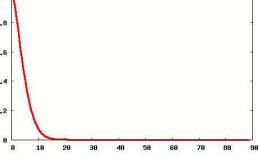
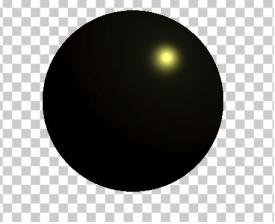
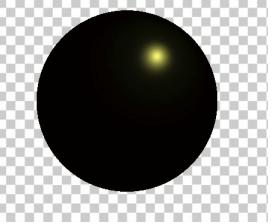
ID	Name	Source	NDF Plot	Appearance	Specular Component
10	bronze	Supermarket; dish			
11	bronze metallic paint	Auto Repair; touch-up paint			
12	acrylic	Supermarket; picture frame			
13	plastic	Supermarket; toy			
14	brass	Supermarket; can			

Figure 4: Details of 24 reference materials (Part 3).

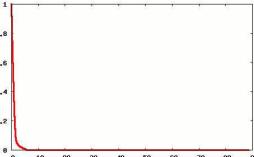
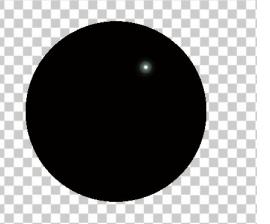
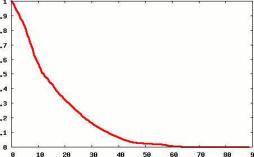
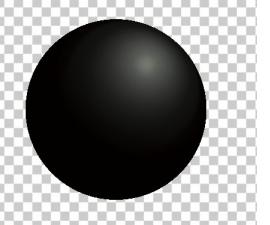
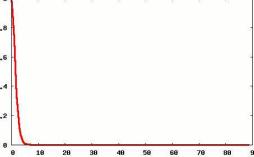
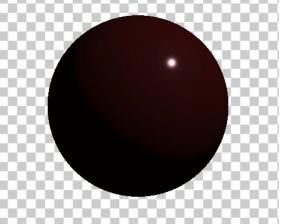
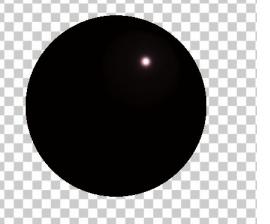
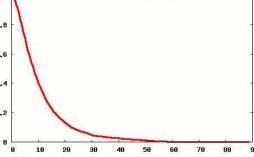
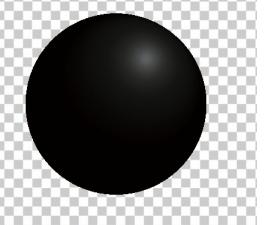
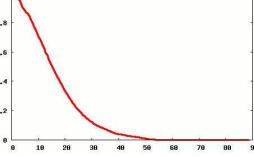
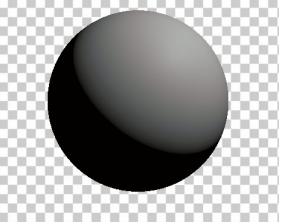
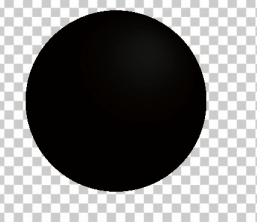
ID	Name	Source	NDF Plot	Appearance	Specular Component
15	coated metallic paint	Auto Repair; touch-up paint			
16	poly-ethylene	Supermarket; plastic bag			
17	red metallic paint	Auto Repair; touch-up paint			
18	alumina	Home Decoration; window frame			
19	80% Spec-tralon	labsphere.com			

Figure 5: Details of 24 reference materials (Part 4).

ID	Name	Source	NDF Plot	Appearance	Specular Component
20	leather	Supermarket; school bag			
21	matte golden paint	Auto Repair; touch-up paint			
22	alum- bronze	Home Decoration; window frame			
23	tinfoil	Supermarket; tinfoil roll			
24	lactoprene	Supermarket; gloves			

Figure 6: Details of 24 reference materials (Part 5).