

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776790

Luminaire Tested: HCDJBS4050CSD-HCD82TRMW-5000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776790
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B064-HCD82TRMW)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD82TRMW-5000lm-2700K
Description: 8 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

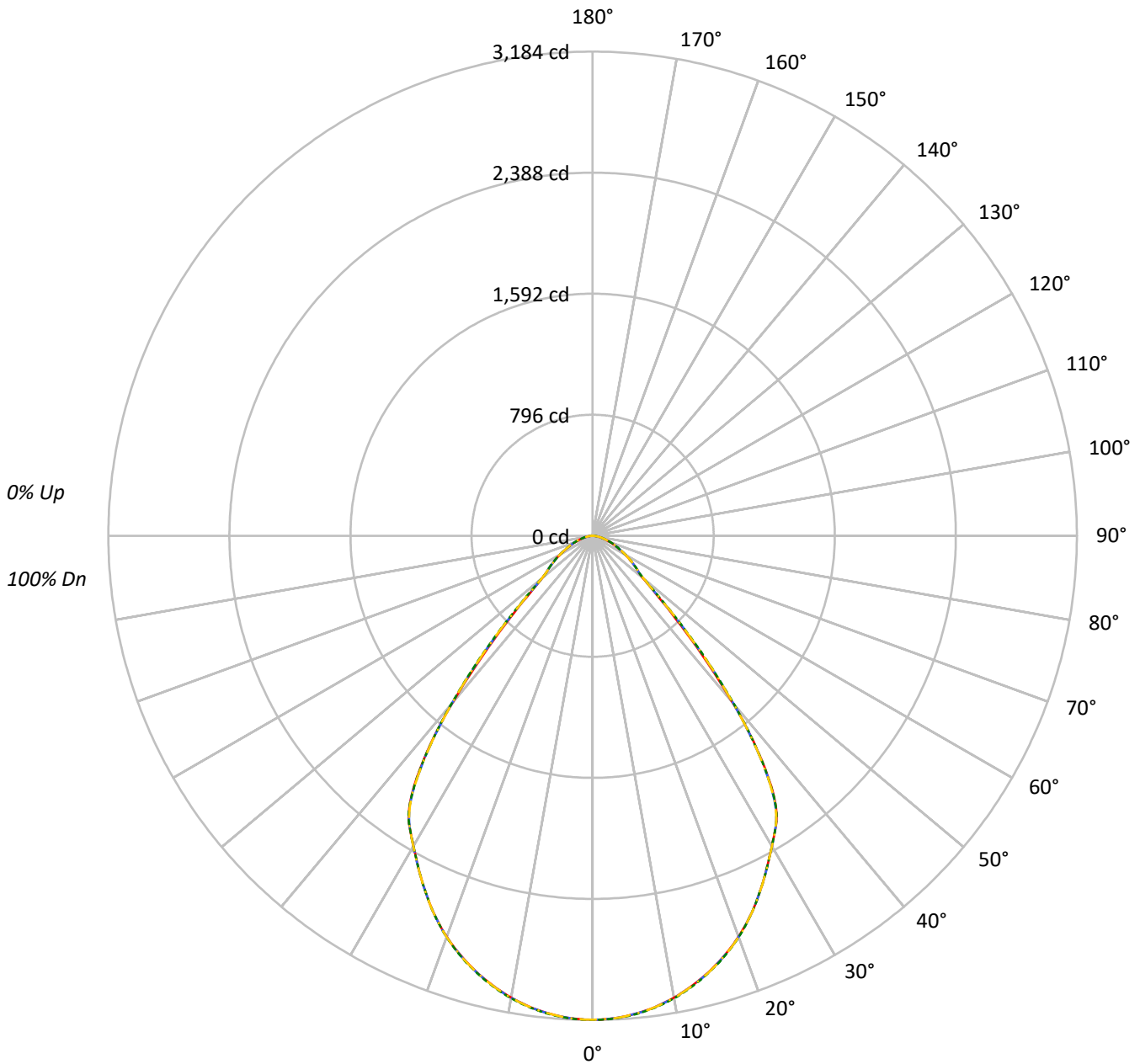
Lumens per Lamp: N/A
Luminaire Lumens: 4799.3 lumens
Efficiency: N/A
Efficacy: 100.0 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.12
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90					90			
2	105	99	93	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72					72			
4	91	82	75	70	89	81	74	70	79	73	69	76	72	68	74	70	67	65					65			
5	86	75	68	63	84	74	68	63	72	67	62	71	65	61	69	64	61	59					59			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54					54			
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	59	55	51	49					49			
8	71	60	52	47	69	59	52	47	58	52	47	57	51	47	55	50	47	45					45			
9	67	55	48	44	66	55	48	44	54	48	43	53	47	43	52	47	43	42					42			
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38					38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	97166	97166	97166	97166
5°	96768	96850	96768	96850
10°	95595	95738	95595	95738
15°	93719	93864	93719	93864
20°	91150	91241	91150	91241
25°	87366	87383	87366	87383
30°	83089	83089	83089	83089
35°	77191	77038	77191	77038
40°	57052	57725	57052	57725
45°	33539	35176	33539	35176
50°	20528	20789	20528	20789
55°	17592	17618	17592	17618
60°	15003	15143	15003	15143
65°	12743	13039	12743	13039
70°	10828	11310	10828	11310
75°	9036	9732	9036	9732
80°	7208	8175	7208	8175
85°	4484	6235	4484	6235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 35452 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.1	6.2
10°-20°	834.8	17.4
20°-30°	1192.2	24.8
30°-40°	1244.9	25.9
40°-50°	646.6	13.5
50°-60°	296.4	6.2
60°-70°	179.8	3.7
70°-80°	86.2	1.8
80°-90°	19.3	0.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2326.2	48.5
0°-40°	3571.0	74.4
0°-60°	4514.1	94.1
0°-90°	4799.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4799.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3183	3183	3183	3183	3183	
5°	3158	3160	3158	3160	3158	299
15°	2965	2970	2965	2970	2965	834
25°	2594	2594	2594	2594	2594	1192
35°	2071	2067	2071	2067	2071	1247
45°	777	815	777	815	777	632
55°	330	331	330	331	330	295
65°	176	180	176	180	176	177
75°	77	82	77	82	77	82
85°	13	18	13	18	13	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6
0.5°	3182.1	3181.2	3182.1	3182.1	3183.9	3182.1	3182.1	3181.2	3182.1	3181.2	3182.1
1°	3181.6	3180.7	3181.6	3181.6	3183.0	3181.6	3181.6	3180.7	3181.6	3180.7	3181.6
1.5°	3180.3	3179.4	3180.3	3180.3	3182.1	3180.3	3180.3	3179.4	3180.3	3179.4	3180.3
2°	3178.4	3177.5	3178.4	3178.4	3180.3	3178.4	3178.4	3177.5	3178.4	3177.5	3178.4
2.5°	3176.2	3175.3	3176.2	3176.6	3178.0	3176.6	3176.2	3175.3	3176.2	3175.3	3176.2
3°	3173.4	3172.5	3173.4	3173.9	3175.7	3173.9	3173.4	3172.5	3173.4	3172.5	3173.4
3.5°	3170.2	3169.3	3170.2	3170.7	3172.5	3170.7	3170.2	3169.3	3170.2	3169.3	3170.2
4°	3166.1	3165.7	3166.6	3167.1	3168.9	3167.1	3166.6	3165.7	3166.1	3165.7	3166.6
4.5°	3162.0	3161.6	3162.5	3162.9	3164.8	3162.9	3162.5	3161.6	3162.0	3161.6	3162.5
5°	3157.5	3156.6	3157.5	3158.4	3160.2	3158.4	3157.5	3156.6	3157.5	3156.6	3157.5
5.5°	3152.0	3151.6	3152.5	3153.4	3155.2	3153.4	3152.5	3151.6	3152.0	3151.6	3152.5
6°	3146.5	3145.6	3147.0	3147.9	3149.3	3147.9	3147.0	3145.6	3146.5	3145.6	3147.0
6.5°	3140.2	3139.7	3141.1	3142.0	3143.3	3142.0	3141.1	3139.7	3140.2	3139.7	3141.1
7°	3133.8	3132.9	3134.2	3135.1	3137.0	3135.1	3134.2	3132.9	3133.8	3132.9	3134.2
7.5°	3126.5	3125.6	3127.4	3128.3	3130.1	3128.3	3127.4	3125.6	3126.5	3125.6	3127.4
8°	3118.7	3118.3	3119.6	3120.6	3122.8	3120.6	3119.6	3118.3	3118.7	3118.3	3119.6
8.5°	3110.5	3110.1	3111.9	3112.8	3114.6	3112.8	3111.9	3110.1	3110.5	3110.1	3111.9
9°	3102.3	3101.9	3103.2	3104.6	3106.4	3104.6	3103.2	3101.9	3102.3	3101.9	3103.2
9.5°	3092.7	3092.7	3094.1	3095.5	3097.3	3095.5	3094.1	3092.7	3092.7	3092.7	3094.1
10°	3083.6	3083.2	3085.0	3086.4	3088.2	3086.4	3085.0	3083.2	3083.6	3083.2	3085.0
10.5°	3073.6	3073.1	3075.0	3076.3	3078.6	3076.3	3075.0	3073.1	3073.6	3073.1	3075.0
11°	3063.1	3063.1	3064.5	3066.3	3068.1	3066.3	3064.5	3063.1	3063.1	3063.1	3064.5
11.5°	3052.6	3052.2	3054.0	3055.4	3057.2	3055.4	3054.0	3052.2	3052.6	3052.2	3054.0
12°	3041.2	3041.2	3042.6	3044.4	3046.2	3044.4	3042.6	3041.2	3041.2	3041.2	3042.6
12.5°	3029.4	3029.4	3031.2	3033.0	3034.4	3033.0	3031.2	3029.4	3029.4	3029.4	3031.2
13°	3017.5	3017.5	3019.3	3020.7	3022.5	3020.7	3019.3	3017.5	3017.5	3017.5	3019.3
13.5°	3004.8	3004.8	3006.6	3008.9	3009.8	3008.9	3006.6	3004.8	3004.8	3004.8	3006.6
14°	2992.4	2992.0	2993.8	2995.6	2997.0	2995.6	2993.8	2992.0	2992.4	2992.0	2993.8
14.5°	2978.8	2978.8	2980.6	2982.4	2983.8	2982.4	2980.6	2978.8	2978.8	2978.8	2980.6
15°	2965.1	2965.5	2967.4	2968.7	2969.7	2968.7	2967.4	2965.5	2965.1	2965.5	2967.4
15.5°	2951.0	2951.4	2953.2	2954.6	2955.5	2954.6	2953.2	2951.4	2951.0	2951.4	2953.2
16°	2936.8	2936.8	2938.7	2940.0	2940.9	2940.0	2938.7	2936.8	2936.8	2936.8	2938.7
16.5°	2922.2	2922.2	2924.1	2925.0	2926.3	2925.0	2924.1	2922.2	2922.2	2922.2	2924.1
17°	2906.7	2906.7	2908.6	2909.9	2910.8	2909.9	2908.6	2906.7	2906.7	2906.7	2908.6
17.5°	2890.8	2891.2	2893.1	2894.0	2894.9	2894.0	2893.1	2891.2	2890.8	2891.2	2893.1
18°	2874.8	2874.8	2876.7	2877.6	2878.5	2877.6	2876.7	2874.8	2874.8	2874.8	2876.7
18.5°	2858.4	2858.4	2860.2	2860.7	2861.6	2860.7	2860.2	2858.4	2858.4	2858.4	2860.2
19°	2841.1	2841.1	2842.9	2843.8	2844.3	2843.8	2842.9	2841.1	2841.1	2841.1	2842.9
19.5°	2823.3	2823.8	2825.1	2826.0	2826.5	2826.0	2825.1	2823.8	2823.3	2823.8	2825.1
20°	2805.5	2805.5	2806.9	2807.4	2808.3	2807.4	2806.9	2805.5	2805.5	2805.5	2806.9
20.5°	2786.8	2786.8	2788.2	2788.2	2789.1	2788.2	2788.2	2786.8	2786.8	2786.8	2788.2
21°	2767.7	2767.7	2769.1	2769.1	2769.5	2769.1	2769.1	2767.7	2767.7	2767.7	2769.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2706.1	2706.1	2707.1	2706.6	2707.5	2706.6	2707.1	2706.1	2706.1	2706.1	2707.1
23°	2684.7	2684.7	2685.2	2685.2	2685.6	2685.2	2685.2	2684.7	2684.7	2684.7	2685.2
23.5°	2662.8	2662.8	2663.3	2662.8	2663.3	2662.8	2663.3	2662.8	2662.8	2662.8	2663.3
24°	2640.5	2640.0	2640.5	2640.0	2640.5	2640.0	2640.5	2640.0	2640.5	2640.0	2640.5
24.5°	2616.8	2616.8	2617.7	2617.3	2617.3	2617.3	2617.7	2616.8	2616.8	2616.8	2617.7
25°	2593.5	2593.5	2594.0	2594.0	2594.0	2594.0	2594.0	2593.5	2593.5	2593.5	2594.0
25.5°	2570.3	2569.8	2570.8	2570.3	2570.3	2570.3	2570.8	2569.8	2570.3	2569.8	2570.8
26°	2546.6	2546.1	2546.6	2547.0	2546.6	2547.0	2546.6	2546.1	2546.6	2546.1	2546.6
26.5°	2522.4	2522.9	2522.9	2522.9	2522.9	2522.9	2522.9	2522.9	2522.4	2522.9	2522.9
27°	2498.7	2498.7	2499.2	2499.2	2498.7	2499.2	2499.2	2498.7	2498.7	2498.7	2499.2
27.5°	2474.6	2474.6	2475.5	2475.5	2474.6	2475.5	2475.5	2474.6	2474.6	2474.6	2475.5
28°	2450.9	2450.9	2451.8	2451.3	2451.3	2451.3	2451.8	2450.9	2450.9	2450.9	2451.8
28.5°	2427.1	2427.1	2428.1	2427.6	2427.1	2427.6	2428.1	2427.1	2427.1	2427.1	2428.1
29°	2403.0	2403.9	2404.4	2403.9	2403.9	2403.9	2404.4	2403.9	2403.0	2403.9	2404.4
29.5°	2379.7	2380.2	2381.1	2381.1	2380.2	2381.1	2381.1	2380.2	2379.7	2380.2	2381.1
30°	2356.9	2357.4	2357.9	2357.9	2356.9	2357.9	2357.9	2357.4	2356.9	2357.4	2357.9
30.5°	2334.1	2335.1	2335.5	2335.1	2333.7	2335.1	2335.5	2335.1	2334.1	2335.1	2335.5
31°	2311.8	2312.3	2313.2	2312.7	2312.3	2312.7	2313.2	2312.3	2311.8	2312.3	2313.2
31.5°	2290.4	2290.4	2290.8	2290.4	2289.5	2290.4	2290.8	2290.4	2290.4	2290.4	2290.8
32°	2268.0	2268.0	2268.0	2267.6	2267.6	2267.6	2268.0	2268.0	2268.0	2268.0	2268.0
32.5°	2245.7	2243.9	2243.4	2243.0	2245.2	2243.0	2243.4	2243.9	2245.7	2243.9	2243.4
33°	2221.1	2216.5	2215.6	2214.2	2222.0	2214.2	2215.6	2216.5	2221.1	2216.5	2215.6
33.5°	2191.0	2184.2	2184.6	2181.9	2191.9	2181.9	2184.6	2184.2	2191.0	2184.2	2184.6
34°	2155.0	2147.2	2150.0	2144.5	2156.3	2144.5	2150.0	2147.2	2155.0	2147.2	2150.0
34.5°	2116.2	2105.3	2109.8	2104.4	2115.3	2104.4	2109.8	2105.3	2116.2	2105.3	2109.8
35°	2071.1	2061.1	2063.3	2059.7	2067.0	2059.7	2063.3	2061.1	2071.1	2061.1	2063.3
35.5°	2020.5	2015.0	2012.3	2009.1	2014.1	2009.1	2012.3	2015.0	2020.5	2015.0	2012.3
36°	1964.9	1965.8	1957.6	1953.9	1961.7	1953.9	1957.6	1965.8	1964.9	1965.8	1957.6
36.5°	1906.5	1910.6	1899.7	1895.6	1903.8	1895.6	1899.7	1910.6	1906.5	1910.6	1899.7
37°	1846.3	1850.0	1840.0	1834.5	1844.5	1834.5	1840.0	1850.0	1846.3	1850.0	1840.0
37.5°	1783.9	1783.9	1777.1	1772.0	1781.2	1772.0	1777.1	1783.9	1783.9	1783.9	1777.1
38°	1718.7	1714.1	1712.8	1708.7	1717.3	1708.7	1712.8	1714.1	1718.7	1714.1	1712.8
38.5°	1650.8	1642.6	1646.2	1643.0	1651.7	1643.0	1646.2	1642.6	1650.8	1642.6	1646.2
39°	1579.7	1571.9	1577.4	1576.9	1586.0	1576.9	1577.4	1571.9	1579.7	1571.9	1577.4
39.5°	1507.2	1501.7	1508.1	1509.9	1518.1	1509.9	1508.1	1501.7	1507.2	1501.7	1508.1
40°	1431.5	1432.9	1439.2	1444.3	1448.4	1444.3	1439.2	1432.9	1431.5	1432.9	1439.2
40.5°	1355.8	1362.6	1369.5	1378.1	1378.6	1378.1	1369.5	1362.6	1355.8	1362.6	1369.5
41°	1282.4	1293.8	1302.5	1312.5	1309.3	1312.5	1302.5	1293.8	1282.4	1293.8	1302.5
41.5°	1209.9	1223.1	1235.5	1247.3	1240.5	1247.3	1235.5	1223.1	1209.9	1223.1	1235.5
42°	1140.6	1154.3	1168.9	1181.7	1174.4	1181.7	1168.9	1154.3	1140.6	1154.3	1168.9
42.5°	1073.6	1086.8	1102.8	1117.8	1109.2	1117.8	1102.8	1086.8	1073.6	1086.8	1102.8
43°	1008.4	1021.6	1039.4	1054.5	1047.2	1054.5	1039.4	1021.6	1008.4	1021.6	1039.4
43.5°	946.4	958.3	977.4	993.8	986.1	993.8	977.4	958.3	946.4	958.3	977.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	776.8	785.0	806.0	821.1	814.7	821.1	806.0	785.0	776.8	785.0	806.0
45.5°	727.1	734.4	754.5	768.6	763.6	768.6	754.5	734.4	727.1	734.4	754.5
46°	680.2	688.4	705.7	718.9	714.8	718.9	705.7	688.4	680.2	688.4	705.7
46.5°	637.3	646.4	658.8	672.4	669.2	672.4	658.8	646.4	637.3	646.4	658.8
47°	597.2	607.7	616.4	629.6	626.4	629.6	616.4	607.7	597.2	607.7	616.4
47.5°	561.7	572.6	577.2	589.9	586.3	589.9	577.2	572.6	561.7	572.6	577.2
48°	529.7	539.3	542.1	554.8	549.8	554.8	542.1	539.3	529.7	539.3	542.1
48.5°	501.0	508.8	511.1	522.0	516.1	522.0	511.1	508.8	501.0	508.8	511.1
49°	475.0	481.0	483.2	492.4	486.9	492.4	483.2	481.0	475.0	481.0	483.2
49.5°	452.7	456.8	459.5	466.4	460.0	466.4	459.5	456.8	452.7	456.8	459.5
50°	432.2	435.8	439.0	443.6	437.7	443.6	439.0	435.8	432.2	435.8	439.0
50.5°	415.3	418.0	420.8	424.4	418.5	424.4	420.8	418.0	415.3	418.0	420.8
51°	401.2	403.9	405.3	408.0	403.0	408.0	405.3	403.9	401.2	403.9	405.3
51.5°	389.3	391.6	393.0	393.9	390.7	393.9	393.0	391.6	389.3	391.6	393.0
52°	380.2	381.1	382.0	382.5	380.7	382.5	382.0	381.1	380.2	381.1	382.0
52.5°	371.5	372.0	372.5	372.5	372.5	372.5	372.5	372.0	371.5	372.0	372.5
53°	363.3	363.8	363.8	363.8	364.3	363.8	363.8	363.8	363.3	363.8	363.8
53.5°	355.6	355.6	355.6	355.1	356.0	355.1	355.6	355.6	355.6	355.6	355.6
54°	347.4	347.4	347.4	346.9	347.8	346.9	347.4	347.4	347.4	347.4	347.4
54.5°	339.2	339.2	339.2	338.7	339.6	338.7	339.2	339.2	339.2	339.2	339.2
55°	330.5	330.5	330.5	330.5	331.0	330.5	330.5	330.5	330.5	330.5	330.5
55.5°	321.9	321.9	322.3	321.9	322.3	321.9	322.3	321.9	321.9	321.9	322.3
56°	313.2	313.2	313.7	313.7	313.7	313.7	313.7	313.2	313.2	313.2	313.7
56.5°	304.5	305.0	305.0	305.0	305.0	305.0	305.0	305.0	304.5	305.0	305.0
57°	295.9	296.3	296.3	296.3	296.3	296.3	296.3	296.3	295.9	296.3	296.3
57.5°	287.2	287.7	288.1	288.1	288.1	288.1	288.1	287.7	287.2	287.7	288.1
58°	278.5	279.5	279.5	279.9	279.9	279.9	279.5	279.5	278.5	279.5	279.5
58.5°	269.9	271.3	271.3	271.7	271.7	271.7	271.3	271.3	269.9	271.3	271.3
59°	261.7	263.0	263.5	263.5	263.5	263.5	263.5	263.0	261.7	263.0	263.5
59.5°	253.9	255.3	255.8	255.8	255.8	255.8	255.8	255.3	253.9	255.3	255.8
60°	245.7	247.5	248.0	248.5	248.0	248.5	248.0	247.5	245.7	247.5	248.0
60.5°	238.0	239.8	240.7	240.7	240.7	240.7	240.7	239.8	238.0	239.8	240.7
61°	230.7	232.5	233.4	233.4	233.4	233.4	233.4	232.5	230.7	232.5	233.4
61.5°	223.4	225.2	226.1	226.6	226.6	226.6	226.1	225.2	223.4	225.2	226.1
62°	216.1	217.9	219.3	219.3	219.3	219.3	219.3	217.9	216.1	217.9	219.3
62.5°	209.3	211.1	212.4	212.4	212.4	212.4	212.4	211.1	209.3	211.1	212.4
63°	202.0	204.2	206.1	206.1	206.1	206.1	206.1	204.2	202.0	204.2	206.1
63.5°	195.6	197.9	199.2	199.7	199.7	199.7	199.2	197.9	195.6	197.9	199.2
64°	189.2	191.0	192.8	193.3	193.3	193.3	192.8	191.0	189.2	191.0	192.8
64.5°	182.8	184.6	186.9	186.9	186.9	186.9	186.9	184.6	182.8	184.6	186.9
65°	176.4	178.3	180.5	181.0	180.5	181.0	180.5	178.3	176.4	178.3	180.5
65.5°	170.5	172.3	174.6	175.1	175.1	175.1	174.6	172.3	170.5	172.3	174.6
66°	164.6	166.4	168.7	169.1	169.1	169.1	168.7	166.4	164.6	166.4	168.7



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	147.3	149.5	151.8	152.7	152.3	152.7	151.8	149.5	147.3	149.5	151.8
68°	141.8	144.1	146.8	147.3	147.3	147.3	146.8	144.1	141.8	144.1	146.8
68.5°	136.8	138.6	141.3	141.8	141.8	141.8	141.3	138.6	136.8	138.6	141.3
69°	131.3	133.6	136.3	136.8	136.8	136.8	136.3	133.6	131.3	133.6	136.3
69.5°	126.3	128.1	131.3	131.8	131.8	131.8	131.3	128.1	126.3	128.1	131.3
70°	121.3	123.1	126.3	126.7	126.7	126.7	126.3	123.1	121.3	123.1	126.3
70.5°	116.3	118.1	121.3	121.7	121.7	121.7	121.3	118.1	116.3	118.1	121.3
71°	111.7	113.5	116.3	117.2	117.2	117.2	116.3	113.5	111.7	113.5	116.3
71.5°	106.7	108.5	111.7	112.6	112.6	112.6	111.7	108.5	106.7	108.5	111.7
72°	102.1	103.9	107.1	108.0	107.6	108.0	107.1	103.9	102.1	103.9	107.1
72.5°	97.6	99.4	102.6	103.5	103.0	103.5	102.6	99.4	97.6	99.4	102.6
73°	93.0	94.8	98.0	98.9	98.9	98.9	98.0	94.8	93.0	94.8	98.0
73.5°	88.9	90.7	93.9	94.8	94.8	94.8	93.9	90.7	88.9	90.7	93.9
74°	84.8	86.6	89.4	90.7	90.3	90.7	89.4	86.6	84.8	86.6	89.4
74.5°	80.7	82.1	85.3	86.6	86.2	86.6	85.3	82.1	80.7	82.1	85.3
75°	76.6	78.0	81.1	82.5	82.5	82.5	81.1	78.0	76.6	78.0	81.1
75.5°	72.5	74.3	77.0	78.4	78.4	78.4	77.0	74.3	72.5	74.3	77.0
76°	68.8	70.2	73.4	74.8	74.3	74.8	73.4	70.2	68.8	70.2	73.4
76.5°	64.7	66.6	69.3	70.7	70.7	70.7	69.3	66.6	64.7	66.6	69.3
77°	61.1	62.9	65.6	67.0	67.0	67.0	65.6	62.9	61.1	62.9	65.6
77.5°	57.9	59.3	62.0	63.4	63.4	63.4	62.0	59.3	57.9	59.3	62.0
78°	54.3	55.6	58.4	60.2	59.7	60.2	58.4	55.6	54.3	55.6	58.4
78.5°	50.6	52.0	55.2	56.5	56.5	56.5	55.2	52.0	50.6	52.0	55.2
79°	47.4	48.8	51.5	53.3	52.9	53.3	51.5	48.8	47.4	48.8	51.5
79.5°	44.2	45.1	48.3	49.7	49.7	49.7	48.3	45.1	44.2	45.1	48.3
80°	41.0	41.9	45.1	46.5	46.5	46.5	45.1	41.9	41.0	41.9	45.1
80.5°	37.8	38.8	41.9	43.3	43.3	43.3	41.9	38.8	37.8	38.8	41.9
81°	34.6	35.6	38.8	40.1	40.1	40.1	38.8	35.6	34.6	35.6	38.8
81.5°	31.9	32.4	35.6	37.4	37.4	37.4	35.6	32.4	31.9	32.4	35.6
82°	28.7	29.6	32.4	34.2	34.2	34.2	32.4	29.6	28.7	29.6	32.4
82.5°	26.0	26.4	29.6	31.5	31.5	31.5	29.6	26.4	26.0	26.4	29.6
83°	23.3	23.7	26.9	28.7	28.3	28.7	26.9	23.7	23.3	23.7	26.9
83.5°	20.5	21.0	24.2	25.5	25.5	25.5	24.2	21.0	20.5	21.0	24.2
84°	17.8	18.2	21.4	22.8	22.8	22.8	21.4	18.2	17.8	18.2	21.4
84.5°	15.0	15.5	18.7	20.5	20.5	20.5	18.7	15.5	15.0	15.5	18.7
85°	12.8	13.2	16.4	17.8	17.8	17.8	16.4	13.2	12.8	13.2	16.4
85.5°	10.5	10.9	14.1	15.0	15.0	15.0	14.1	10.9	10.5	10.9	14.1
86°	8.2	9.1	11.9	12.8	12.8	12.8	11.9	9.1	8.2	9.1	11.9
86.5°	6.4	7.3	9.6	10.5	10.5	10.5	9.6	7.3	6.4	7.3	9.6
87°	5.0	5.5	7.3	8.2	8.2	8.2	7.3	5.5	5.0	5.5	7.3
87.5°	3.6	4.1	5.5	6.4	5.9	6.4	5.5	4.1	3.6	4.1	5.5
88°	2.3	2.7	4.1	4.6	3.6	4.6	4.1	2.7	2.3	2.7	4.1
88.5°	1.4	1.8	2.7	3.2	2.3	3.2	2.7	1.8	1.4	1.8	2.7



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.5	0.5	0.0	0.5	0.5	0.0	0.0	0.0	0.5



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBLS4050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3182.6	3182.6	3182.6	3182.6	3182.6	3182.6
0.5°	3182.1	3183.9	3182.1	3182.1	3181.2	3182.1
1°	3181.6	3183.0	3181.6	3181.6	3180.7	3181.6
1.5°	3180.3	3182.1	3180.3	3180.3	3179.4	3180.3
2°	3178.4	3180.3	3178.4	3178.4	3177.5	3178.4
2.5°	3176.6	3178.0	3176.6	3176.2	3175.3	3176.2
3°	3173.9	3175.7	3173.9	3173.4	3172.5	3173.4
3.5°	3170.7	3172.5	3170.7	3170.2	3169.3	3170.2
4°	3167.1	3168.9	3167.1	3166.6	3165.7	3166.1
4.5°	3162.9	3164.8	3162.9	3162.5	3161.6	3162.0
5°	3158.4	3160.2	3158.4	3157.5	3156.6	3157.5
5.5°	3153.4	3155.2	3153.4	3152.5	3151.6	3152.0
6°	3147.9	3149.3	3147.9	3147.0	3145.6	3146.5
6.5°	3142.0	3143.3	3142.0	3141.1	3139.7	3140.2
7°	3135.1	3137.0	3135.1	3134.2	3132.9	3133.8
7.5°	3128.3	3130.1	3128.3	3127.4	3125.6	3126.5
8°	3120.6	3122.8	3120.6	3119.6	3118.3	3118.7
8.5°	3112.8	3114.6	3112.8	3111.9	3110.1	3110.5
9°	3104.6	3106.4	3104.6	3103.2	3101.9	3102.3
9.5°	3095.5	3097.3	3095.5	3094.1	3092.7	3092.7
10°	3086.4	3088.2	3086.4	3085.0	3083.2	3083.6
10.5°	3076.3	3078.6	3076.3	3075.0	3073.1	3073.6
11°	3066.3	3068.1	3066.3	3064.5	3063.1	3063.1
11.5°	3055.4	3057.2	3055.4	3054.0	3052.2	3052.6
12°	3044.4	3046.2	3044.4	3042.6	3041.2	3041.2
12.5°	3033.0	3034.4	3033.0	3031.2	3029.4	3029.4
13°	3020.7	3022.5	3020.7	3019.3	3017.5	3017.5
13.5°	3008.9	3009.8	3008.9	3006.6	3004.8	3004.8
14°	2995.6	2997.0	2995.6	2993.8	2992.0	2992.4
14.5°	2982.4	2983.8	2982.4	2980.6	2978.8	2978.8
15°	2968.7	2969.7	2968.7	2967.4	2965.5	2965.1
15.5°	2954.6	2955.5	2954.6	2953.2	2951.4	2951.0
16°	2940.0	2940.9	2940.0	2938.7	2936.8	2936.8
16.5°	2925.0	2926.3	2925.0	2924.1	2922.2	2922.2
17°	2909.9	2910.8	2909.9	2908.6	2906.7	2906.7
17.5°	2894.0	2894.9	2894.0	2893.1	2891.2	2890.8
18°	2877.6	2878.5	2877.6	2876.7	2874.8	2874.8
18.5°	2860.7	2861.6	2860.7	2860.2	2858.4	2858.4
19°	2843.8	2844.3	2843.8	2842.9	2841.1	2841.1
19.5°	2826.0	2826.5	2826.0	2825.1	2823.8	2823.3
20°	2807.4	2808.3	2807.4	2806.9	2805.5	2805.5
20.5°	2788.2	2789.1	2788.2	2788.2	2786.8	2786.8
21°	2769.1	2769.5	2769.1	2769.1	2767.7	2767.7



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBLS4050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2706.6	2707.5	2706.6	2707.1	2706.1	2706.1
23°	2685.2	2685.6	2685.2	2685.2	2684.7	2684.7
23.5°	2662.8	2663.3	2662.8	2663.3	2662.8	2662.8
24°	2640.0	2640.5	2640.0	2640.5	2640.0	2640.5
24.5°	2617.3	2617.3	2617.3	2617.7	2616.8	2616.8
25°	2594.0	2594.0	2594.0	2594.0	2593.5	2593.5
25.5°	2570.3	2570.3	2570.3	2570.8	2569.8	2570.3
26°	2547.0	2546.6	2547.0	2546.6	2546.1	2546.6
26.5°	2522.9	2522.9	2522.9	2522.9	2522.9	2522.4
27°	2499.2	2498.7	2499.2	2499.2	2498.7	2498.7
27.5°	2475.5	2474.6	2475.5	2475.5	2474.6	2474.6
28°	2451.3	2451.3	2451.3	2451.8	2450.9	2450.9
28.5°	2427.6	2427.1	2427.6	2428.1	2427.1	2427.1
29°	2403.9	2403.9	2403.9	2404.4	2403.9	2403.0
29.5°	2381.1	2380.2	2381.1	2381.1	2380.2	2379.7
30°	2357.9	2356.9	2357.9	2357.9	2357.4	2356.9
30.5°	2335.1	2333.7	2335.1	2335.5	2335.1	2334.1
31°	2312.7	2312.3	2312.7	2313.2	2312.3	2311.8
31.5°	2290.4	2289.5	2290.4	2290.8	2290.4	2290.4
32°	2267.6	2267.6	2267.6	2268.0	2268.0	2268.0
32.5°	2243.0	2245.2	2243.0	2243.4	2243.9	2245.7
33°	2214.2	2222.0	2214.2	2215.6	2216.5	2221.1
33.5°	2181.9	2191.9	2181.9	2184.6	2184.2	2191.0
34°	2144.5	2156.3	2144.5	2150.0	2147.2	2155.0
34.5°	2104.4	2115.3	2104.4	2109.8	2105.3	2116.2
35°	2059.7	2067.0	2059.7	2063.3	2061.1	2071.1
35.5°	2009.1	2014.1	2009.1	2012.3	2015.0	2020.5
36°	1953.9	1961.7	1953.9	1957.6	1965.8	1964.9
36.5°	1895.6	1903.8	1895.6	1899.7	1910.6	1906.5
37°	1834.5	1844.5	1834.5	1840.0	1850.0	1846.3
37.5°	1772.0	1781.2	1772.0	1777.1	1783.9	1783.9
38°	1708.7	1717.3	1708.7	1712.8	1714.1	1718.7
38.5°	1643.0	1651.7	1643.0	1646.2	1642.6	1650.8
39°	1576.9	1586.0	1576.9	1577.4	1571.9	1579.7
39.5°	1509.9	1518.1	1509.9	1508.1	1501.7	1507.2
40°	1444.3	1448.4	1444.3	1439.2	1432.9	1431.5
40.5°	1378.1	1378.6	1378.1	1369.5	1362.6	1355.8
41°	1312.5	1309.3	1312.5	1302.5	1293.8	1282.4
41.5°	1247.3	1240.5	1247.3	1235.5	1223.1	1209.9
42°	1181.7	1174.4	1181.7	1168.9	1154.3	1140.6
42.5°	1117.8	1109.2	1117.8	1102.8	1086.8	1073.6
43°	1054.5	1047.2	1054.5	1039.4	1021.6	1008.4
43.5°	993.8	986.1	993.8	977.4	958.3	946.4

TEST NUMBER: P776790

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	821.1	814.7	821.1	806.0	785.0	776.8
45.5°	768.6	763.6	768.6	754.5	734.4	727.1
46°	718.9	714.8	718.9	705.7	688.4	680.2
46.5°	672.4	669.2	672.4	658.8	646.4	637.3
47°	629.6	626.4	629.6	616.4	607.7	597.2
47.5°	589.9	586.3	589.9	577.2	572.6	561.7
48°	554.8	549.8	554.8	542.1	539.3	529.7
48.5°	522.0	516.1	522.0	511.1	508.8	501.0
49°	492.4	486.9	492.4	483.2	481.0	475.0
49.5°	466.4	460.0	466.4	459.5	456.8	452.7
50°	443.6	437.7	443.6	439.0	435.8	432.2
50.5°	424.4	418.5	424.4	420.8	418.0	415.3
51°	408.0	403.0	408.0	405.3	403.9	401.2
51.5°	393.9	390.7	393.9	393.0	391.6	389.3
52°	382.5	380.7	382.5	382.0	381.1	380.2
52.5°	372.5	372.5	372.5	372.5	372.0	371.5
53°	363.8	364.3	363.8	363.8	363.8	363.3
53.5°	355.1	356.0	355.1	355.6	355.6	355.6
54°	346.9	347.8	346.9	347.4	347.4	347.4
54.5°	338.7	339.6	338.7	339.2	339.2	339.2
55°	330.5	331.0	330.5	330.5	330.5	330.5
55.5°	321.9	322.3	321.9	322.3	321.9	321.9
56°	313.7	313.7	313.7	313.7	313.2	313.2
56.5°	305.0	305.0	305.0	305.0	305.0	304.5
57°	296.3	296.3	296.3	296.3	296.3	295.9
57.5°	288.1	288.1	288.1	288.1	287.7	287.2
58°	279.9	279.9	279.9	279.5	279.5	278.5
58.5°	271.7	271.7	271.7	271.3	271.3	269.9
59°	263.5	263.5	263.5	263.5	263.0	261.7
59.5°	255.8	255.8	255.8	255.8	255.3	253.9
60°	248.5	248.0	248.5	248.0	247.5	245.7
60.5°	240.7	240.7	240.7	240.7	239.8	238.0
61°	233.4	233.4	233.4	233.4	232.5	230.7
61.5°	226.6	226.6	226.6	226.1	225.2	223.4
62°	219.3	219.3	219.3	219.3	217.9	216.1
62.5°	212.4	212.4	212.4	212.4	211.1	209.3
63°	206.1	206.1	206.1	206.1	204.2	202.0
63.5°	199.7	199.7	199.7	199.2	197.9	195.6
64°	193.3	193.3	193.3	192.8	191.0	189.2
64.5°	186.9	186.9	186.9	186.9	184.6	182.8
65°	181.0	180.5	181.0	180.5	178.3	176.4
65.5°	175.1	175.1	175.1	174.6	172.3	170.5
66°	169.1	169.1	169.1	168.7	166.4	164.6



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	152.7	152.3	152.7	151.8	149.5	147.3
68°	147.3	147.3	147.3	146.8	144.1	141.8
68.5°	141.8	141.8	141.8	141.3	138.6	136.8
69°	136.8	136.8	136.8	136.3	133.6	131.3
69.5°	131.8	131.8	131.8	131.3	128.1	126.3
70°	126.7	126.7	126.7	126.3	123.1	121.3
70.5°	121.7	121.7	121.7	121.3	118.1	116.3
71°	117.2	117.2	117.2	116.3	113.5	111.7
71.5°	112.6	112.1	112.6	111.7	108.5	106.7
72°	108.0	107.6	108.0	107.1	103.9	102.1
72.5°	103.5	103.0	103.5	102.6	99.4	97.6
73°	98.9	98.9	98.9	98.0	94.8	93.0
73.5°	94.8	94.8	94.8	93.9	90.7	88.9
74°	90.7	90.3	90.7	89.4	86.6	84.8
74.5°	86.6	86.2	86.6	85.3	82.1	80.7
75°	82.5	82.5	82.5	81.1	78.0	76.6
75.5°	78.4	78.4	78.4	77.0	74.3	72.5
76°	74.8	74.3	74.8	73.4	70.2	68.8
76.5°	70.7	70.7	70.7	69.3	66.6	64.7
77°	67.0	67.0	67.0	65.6	62.9	61.1
77.5°	63.4	63.4	63.4	62.0	59.3	57.9
78°	60.2	59.7	60.2	58.4	55.6	54.3
78.5°	56.5	56.5	56.5	55.2	52.0	50.6
79°	53.3	52.9	53.3	51.5	48.8	47.4
79.5°	49.7	49.7	49.7	48.3	45.1	44.2
80°	46.5	46.5	46.5	45.1	41.9	41.0
80.5°	43.3	43.3	43.3	41.9	38.8	37.8
81°	40.1	40.1	40.1	38.8	35.6	34.6
81.5°	37.4	37.4	37.4	35.6	32.4	31.9
82°	34.2	34.2	34.2	32.4	29.6	28.7
82.5°	31.5	31.5	31.5	29.6	26.4	26.0
83°	28.7	28.3	28.7	26.9	23.7	23.3
83.5°	25.5	25.5	25.5	24.2	21.0	20.5
84°	22.8	22.8	22.8	21.4	18.2	17.8
84.5°	20.5	20.5	20.5	18.7	15.5	15.0
85°	17.8	17.8	17.8	16.4	13.2	12.8
85.5°	15.0	15.0	15.0	14.1	10.9	10.5
86°	12.8	12.8	12.8	11.9	9.1	8.2
86.5°	10.5	10.5	10.5	9.6	7.3	6.4
87°	8.2	8.2	8.2	7.3	5.5	5.0
87.5°	6.4	5.9	6.4	5.5	4.1	3.6
88°	4.6	3.6	4.6	4.1	2.7	2.3
88.5°	3.2	2.3	3.2	2.7	1.8	1.4



TEST NUMBER: P776790

CATALOG NUMBER: HCDJBL54050CSD-HCD82TRMW-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.5	0.0	0.5	0.5	0.0	0.0



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Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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Scaled Data Report



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Scaled Data Report





21.5°	2747.6	2748.1	2749.0	2749.0	2749.5	2749.0	2749.0	2748.1	2747.6	2748.1	2749.0
22°	2727.6	2727.6	2728.0	2728.0	2728.9	2728.0	2728.0	2727.6	2727.6	2727.6	2728.0



44°	887.2	897.2	918.2	933.7	926.8	933.7	918.2	897.2	887.2	897.2	918.2
44.5°	831.1	839.3	860.7	876.7	869.4	876.7	860.7	839.3	831.1	839.3	860.7



66.5°	158.2	160.5	162.8	163.2	163.7	163.2	162.8	160.5	158.2	160.5	162.8
67°	152.7	154.5	157.3	158.2	158.2	158.2	157.3	154.5	152.7	154.5	157.3



89°	0.5	0.9	1.4	2.3	1.4	2.3	1.4	0.9	0.5	0.9	1.4
89.5°	0.0	0.5	0.9	1.4	0.5	1.4	0.9	0.5	0.0	0.5	0.9

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21.5°	2749.0	2749.5	2749.0	2749.0	2748.1	2747.6
22°	2728.0	2728.9	2728.0	2728.0	2727.6	2727.6



44°	933.7	926.8	933.7	918.2	897.2	887.2
44.5°	876.7	869.4	876.7	860.7	839.3	831.1

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66.5°	163.2	163.7	163.2	162.8	160.5	158.2
67°	158.2	158.2	158.2	157.3	154.5	152.7

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89°	2.3	1.4	2.3	1.4	0.9	0.5
89.5°	1.4	0.5	1.4	0.9	0.5	0.0

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Scaled Data Report



(END OF REPORT)