

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: P776539

Luminaire Tested: HCDJBS4050CSD-HCD42TRMW-4000lm-5000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776539  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156A001)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD42TRMW-4000lm-5000K  
Description: 4 INCH ROUND NARROW MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3880.8 lumens  
Efficiency: N/A  
Efficacy: 102.1 lumens/watt  
Spacing Criteria (0/90/45): 0.96 / 0.97 / 0.95  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

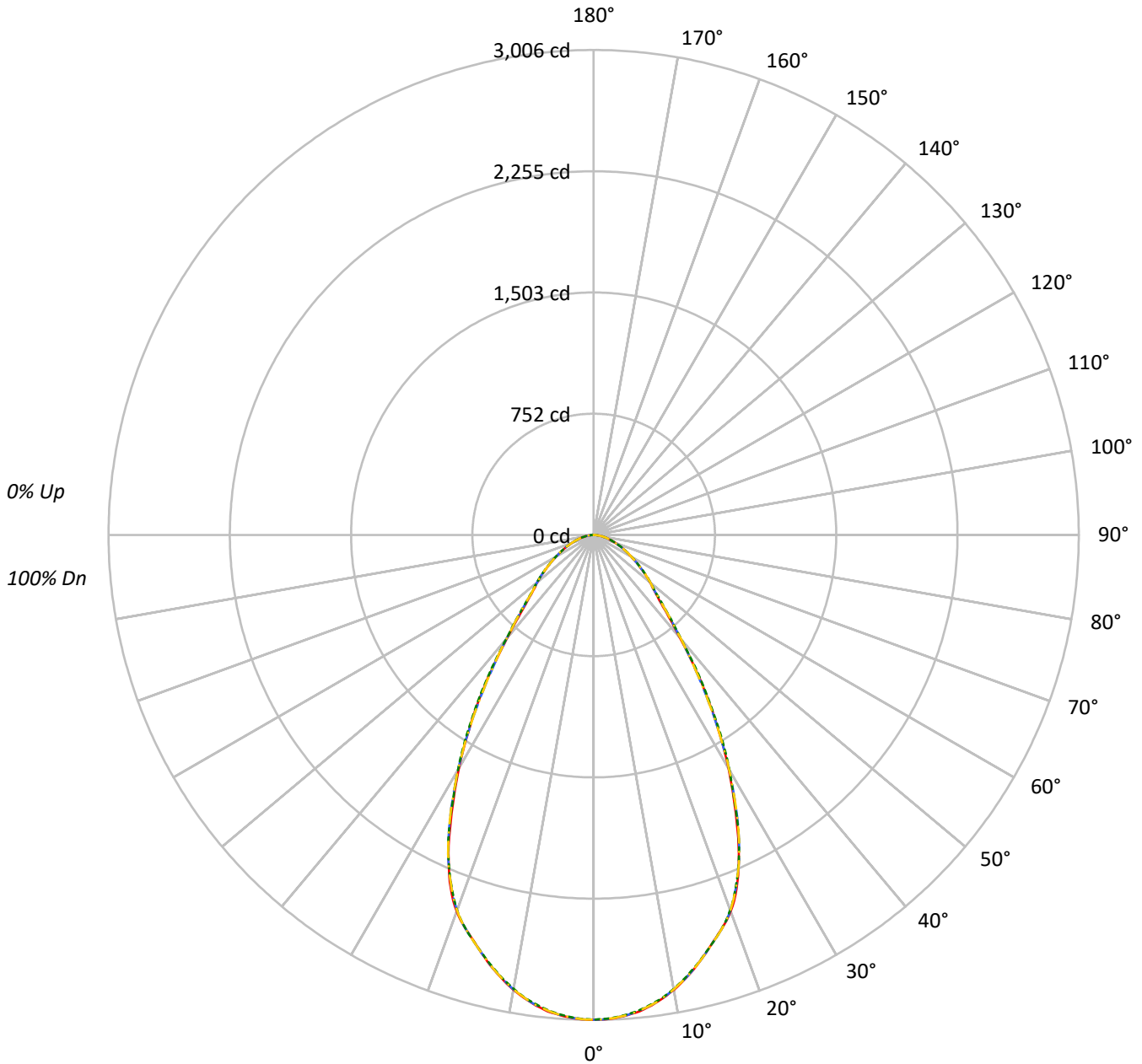
Input Watts (W): 38  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

### 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	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89					89			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	74	80	76	73	71					71			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58					58			
6	80	69	62	57	78	68	61	56	67	60	56	65	60	55	64	59	55	53					53			
7	75	64	57	52	74	63	56	52	62	56	51	61	55	51	59	54	51	49					49			
8	71	60	52	48	70	59	52	47	58	52	47	57	51	47	56	51	47	45					45			
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42					42			
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39					39			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	378242	378242	378242	378242
5°	375568	374747	375568	374747
10°	365866	365036	365866	365036
15°	349683	349253	349683	349253
20°	332486	331308	332486	331308
25°	295105	296049	295105	296049
30°	242799	244077	242799	244077
35°	188356	190399	188356	190399
40°	136817	139199	136817	139199
45°	103583	106164	103583	106164
50°	89201	89925	89201	89925
55°	77540	78418	77540	78418
60°	67783	68387	67783	68387
65°	59557	60063	59557	60063
70°	52582	52876	52582	52876
75°	46193	46193	46193	46193
80°	39933	39643	39933	39643
85°	31912	31912	31912	31912

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 106164 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	280.0	7.2
10°-20°	753.9	19.4
20°-30°	965.5	24.9
30°-40°	765.1	19.7
40°-50°	468.5	12.1
50°-60°	320.2	8.3
60°-70°	200.5	5.2
70°-80°	101.6	2.6
80°-90°	25.6	0.7
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°	1999.4	51.5
0°-40°	2764.5	71.2
0°-60°	3553.1	91.6
0°-90°	3880.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3880.8	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3006	3006	3006	3006	3006	
5°	2973	2966	2973	2966	2973	280
15°	2684	2681	2684	2681	2684	754
25°	2125	2132	2125	2132	2125	963
35°	1226	1239	1226	1239	1226	764
45°	582	596	582	596	582	462
55°	353	357	353	357	353	318
65°	200	202	200	202	200	200
75°	95	95	95	95	95	102
85°	22	22	22	22	22	26
90°	0	1	0	1	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°	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5
0.5°	3005.9	3005.5	3004.7	3004.3	3003.0	3004.3	3004.7	3005.5	3005.9	3005.5	3004.7
1°	3004.7	3004.3	3003.9	3003.5	3001.8	3003.5	3003.9	3004.3	3004.7	3004.3	3003.9
1.5°	3003.0	3002.2	3002.2	3001.4	3000.2	3001.4	3002.2	3002.2	3003.0	3002.2	3002.2
2°	3000.6	3000.2	2999.4	2999.0	2997.4	2999.0	2999.4	3000.2	3000.6	3000.2	2999.4
2.5°	2997.8	2997.0	2996.2	2995.8	2993.8	2995.8	2996.2	2997.0	2997.8	2997.0	2996.2
3°	2993.8	2993.0	2992.2	2991.4	2989.4	2991.4	2992.2	2993.0	2993.8	2993.0	2992.2
3.5°	2989.4	2988.6	2987.4	2986.5	2985.3	2986.5	2987.4	2988.6	2989.4	2988.6	2987.4
4°	2984.1	2983.7	2982.1	2981.3	2979.3	2981.3	2982.1	2983.7	2984.1	2983.7	2982.1
4.5°	2978.5	2977.7	2976.1	2975.3	2972.9	2975.3	2976.1	2977.7	2978.5	2977.7	2976.1
5°	2972.9	2971.7	2970.0	2969.2	2966.4	2969.2	2970.0	2971.7	2972.9	2971.7	2970.0
5.5°	2966.8	2964.0	2962.0	2961.2	2958.8	2961.2	2962.0	2964.0	2966.8	2964.0	2962.0
6°	2957.6	2956.0	2953.9	2952.7	2949.5	2952.7	2953.9	2956.0	2957.6	2956.0	2953.9
6.5°	2948.3	2947.1	2944.7	2943.5	2940.3	2943.5	2944.7	2947.1	2948.3	2947.1	2944.7
7°	2938.6	2937.0	2935.8	2933.8	2931.0	2933.8	2935.8	2937.0	2938.6	2937.0	2935.8
7.5°	2927.8	2926.2	2924.6	2923.8	2920.9	2923.8	2924.6	2926.2	2927.8	2926.2	2924.6
8°	2916.1	2914.9	2913.3	2912.1	2910.5	2912.1	2913.3	2914.9	2916.1	2914.9	2913.3
8.5°	2904.0	2902.4	2900.8	2899.6	2898.0	2899.6	2900.8	2902.4	2904.0	2902.4	2900.8
9°	2891.2	2889.9	2887.9	2886.7	2885.1	2886.7	2887.9	2889.9	2891.2	2889.9	2887.9
9.5°	2877.1	2876.3	2874.2	2873.0	2871.4	2873.0	2874.2	2876.3	2877.1	2876.3	2874.2
10°	2863.0	2861.8	2860.2	2858.6	2856.5	2858.6	2860.2	2861.8	2863.0	2861.8	2860.2
10.5°	2847.3	2846.5	2844.5	2843.3	2841.6	2843.3	2844.5	2846.5	2847.3	2846.5	2844.5
11°	2831.6	2830.8	2829.2	2827.6	2825.5	2827.6	2829.2	2830.8	2831.6	2830.8	2829.2
11.5°	2815.1	2814.3	2812.7	2811.1	2809.4	2811.1	2812.7	2814.3	2815.1	2814.3	2812.7
12°	2798.2	2797.4	2796.2	2794.2	2792.5	2794.2	2796.2	2797.4	2798.2	2797.4	2796.2
12.5°	2780.5	2779.7	2778.5	2776.4	2774.4	2776.4	2778.5	2779.7	2780.5	2779.7	2778.5
13°	2762.4	2761.5	2760.3	2758.7	2756.7	2758.7	2760.3	2761.5	2762.4	2761.5	2760.3
13.5°	2743.4	2742.6	2741.8	2740.2	2738.6	2740.2	2741.8	2742.6	2743.4	2742.6	2741.8
14°	2724.1	2723.7	2722.9	2721.3	2719.7	2721.3	2722.9	2723.7	2724.1	2723.7	2722.9
14.5°	2704.0	2703.6	2703.2	2701.6	2700.0	2701.6	2703.2	2703.6	2704.0	2703.6	2703.2
15°	2683.9	2683.9	2683.1	2682.3	2680.6	2682.3	2683.1	2683.9	2683.9	2683.9	2683.1
15.5°	2662.9	2662.9	2663.7	2662.9	2662.1	2662.9	2663.7	2662.9	2662.9	2662.9	2663.7
16°	2642.8	2643.2	2644.4	2644.0	2643.2	2644.0	2644.4	2643.2	2642.8	2643.2	2644.4
16.5°	2622.7	2623.5	2625.1	2625.1	2624.7	2625.1	2625.1	2623.5	2622.7	2623.5	2625.1
17°	2603.8	2604.6	2606.2	2605.8	2606.2	2605.8	2606.2	2604.6	2603.8	2604.6	2606.2
17.5°	2585.3	2586.1	2587.3	2586.9	2586.5	2586.9	2587.3	2586.1	2585.3	2586.1	2587.3
18°	2567.1	2567.5	2568.3	2567.5	2566.7	2567.5	2568.3	2567.5	2567.1	2567.5	2568.3
18.5°	2547.8	2547.8	2547.8	2547.0	2545.8	2547.0	2547.8	2547.8	2547.8	2547.8	2547.8
19°	2528.1	2526.9	2526.1	2524.9	2523.7	2524.9	2526.1	2526.9	2528.1	2526.9	2526.1
19.5°	2506.4	2504.8	2502.3	2501.5	2500.3	2501.5	2502.3	2504.8	2506.4	2504.8	2502.3
20°	2482.6	2480.6	2476.2	2476.6	2473.8	2476.6	2476.2	2480.6	2482.6	2480.6	2476.2
20.5°	2456.5	2453.2	2448.0	2449.6	2446.4	2449.6	2448.0	2453.2	2456.5	2453.2	2448.0
21°	2429.1	2424.3	2418.2	2420.2	2416.2	2420.2	2418.2	2424.3	2429.1	2424.3	2418.2



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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°	2328.9	2324.0	2320.0	2319.6	2317.6	2319.6	2320.0	2324.0	2328.9	2324.0	2320.0
23°	2290.6	2286.6	2285.8	2283.0	2282.2	2283.0	2285.8	2286.6	2290.6	2286.6	2285.8
23.5°	2251.6	2248.0	2250.0	2245.1	2247.2	2245.1	2250.0	2248.0	2251.6	2248.0	2250.0
24°	2210.9	2208.1	2212.9	2206.5	2210.1	2206.5	2212.9	2208.1	2210.9	2208.1	2212.9
24.5°	2169.1	2167.9	2173.9	2167.5	2172.3	2167.5	2173.9	2167.9	2169.1	2167.9	2173.9
25°	2125.2	2126.0	2133.2	2128.4	2132.0	2128.4	2133.2	2126.0	2125.2	2126.0	2133.2
25.5°	2079.7	2084.9	2091.4	2089.4	2090.2	2089.4	2091.4	2084.9	2079.7	2084.9	2091.4
26°	2033.0	2042.3	2048.3	2048.7	2045.5	2048.7	2048.3	2042.3	2033.0	2042.3	2048.3
26.5°	1985.1	1998.8	2003.6	2006.5	1999.2	2006.5	2003.6	1998.8	1985.1	1998.8	2003.6
27°	1938.4	1953.7	1958.6	1963.0	1952.1	1963.0	1958.6	1953.7	1938.4	1953.7	1958.6
27.5°	1892.6	1907.0	1912.7	1918.3	1904.2	1918.3	1912.7	1907.0	1892.6	1907.0	1912.7
28°	1846.7	1860.4	1866.0	1871.6	1856.3	1871.6	1866.0	1860.4	1846.7	1860.4	1866.0
28.5°	1802.0	1812.9	1819.3	1824.1	1810.0	1824.1	1819.3	1812.9	1802.0	1812.9	1819.3
29°	1757.7	1765.0	1772.6	1775.8	1766.2	1775.8	1772.6	1765.0	1757.7	1765.0	1772.6
29.5°	1714.2	1717.9	1726.3	1727.5	1723.1	1727.5	1726.3	1717.9	1714.2	1717.9	1726.3
30°	1670.8	1669.6	1678.8	1679.2	1679.6	1679.2	1678.8	1669.6	1670.8	1669.6	1678.8
30.5°	1625.7	1622.9	1631.7	1632.5	1638.6	1632.5	1631.7	1622.9	1625.7	1622.9	1631.7
31°	1581.0	1575.0	1584.2	1585.8	1595.1	1585.8	1584.2	1575.0	1581.0	1575.0	1584.2
31.5°	1535.1	1529.1	1536.7	1539.6	1551.2	1539.6	1536.7	1529.1	1535.1	1529.1	1536.7
32°	1488.4	1482.8	1489.7	1494.1	1506.2	1494.1	1489.7	1482.8	1488.4	1482.8	1489.7
32.5°	1443.4	1438.5	1443.4	1449.0	1461.1	1449.0	1443.4	1438.5	1443.4	1438.5	1443.4
33°	1397.9	1394.3	1395.9	1403.9	1415.2	1403.9	1395.9	1394.3	1397.9	1394.3	1395.9
33.5°	1357.2	1350.0	1348.8	1358.8	1368.9	1358.8	1348.8	1350.0	1357.2	1350.0	1348.8
34°	1313.4	1305.7	1302.1	1314.6	1325.0	1314.6	1302.1	1305.7	1313.4	1305.7	1302.1
34.5°	1269.9	1261.8	1256.6	1269.9	1281.6	1269.9	1256.6	1261.8	1269.9	1261.8	1256.6
35°	1226.0	1219.2	1213.5	1226.8	1239.3	1226.8	1213.5	1219.2	1226.0	1219.2	1213.5
35.5°	1183.3	1176.9	1170.9	1184.2	1197.8	1184.2	1170.9	1176.9	1183.3	1176.9	1170.9
36°	1141.5	1134.6	1129.4	1143.1	1157.2	1143.1	1129.4	1134.6	1141.5	1134.6	1129.4
36.5°	1100.0	1094.0	1089.2	1102.4	1115.7	1102.4	1089.2	1094.0	1100.0	1094.0	1089.2
37°	1058.2	1053.7	1049.7	1063.0	1074.7	1063.0	1049.7	1053.7	1058.2	1053.7	1049.7
37.5°	1017.5	1014.7	1011.9	1025.2	1033.6	1025.2	1011.9	1014.7	1017.5	1014.7	1011.9
38°	977.3	976.9	975.7	988.1	993.0	988.1	975.7	976.9	977.3	976.9	975.7
38.5°	939.4	940.2	941.0	951.9	953.9	951.9	941.0	940.2	939.4	940.2	941.0
39°	902.8	904.8	906.4	916.9	916.5	916.9	906.4	904.8	902.8	904.8	906.4
39.5°	867.0	870.6	873.4	882.3	881.1	882.3	873.4	870.6	867.0	870.6	873.4
40°	832.8	836.8	841.6	848.9	847.3	848.9	841.6	836.8	832.8	836.8	841.6
40.5°	800.6	804.6	811.0	816.3	815.9	816.3	811.0	804.6	800.6	804.6	811.0
41°	769.6	773.6	782.1	785.7	786.9	785.7	782.1	773.6	769.6	773.6	782.1
41.5°	740.2	744.6	754.3	756.3	759.9	756.3	754.3	744.6	740.2	744.6	754.3
42°	712.8	717.3	727.7	728.9	733.8	728.9	727.7	717.3	712.8	717.3	727.7
42.5°	687.1	691.5	702.8	703.2	708.4	703.2	702.8	691.5	687.1	691.5	702.8
43°	662.5	667.3	678.2	679.0	683.8	679.0	678.2	667.3	662.5	667.3	678.2
43.5°	640.0	644.8	655.3	655.7	660.1	655.7	655.3	644.8	640.0	644.8	655.3



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CATALOG NUMBER: HCDJBL4050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	582.0	586.0	592.5	594.5	596.5	594.5	592.5	586.0	582.0	586.0	592.5
45.5°	565.1	568.3	574.4	576.4	578.0	576.4	574.4	568.3	565.1	568.3	574.4
46°	549.0	551.8	557.1	559.9	560.7	559.9	557.1	551.8	549.0	551.8	557.1
46.5°	534.1	536.5	540.6	543.8	544.6	543.8	540.6	536.5	534.1	536.5	540.6
47°	520.0	521.6	525.7	528.9	530.1	528.9	525.7	521.6	520.0	521.6	525.7
47.5°	506.7	508.0	511.6	515.2	516.8	515.2	511.6	508.0	506.7	508.0	511.6
48°	494.3	495.9	499.5	502.7	504.3	502.7	499.5	495.9	494.3	495.9	499.5
48.5°	484.2	485.0	487.8	491.0	492.3	491.0	487.8	485.0	484.2	485.0	487.8
49°	474.5	474.9	477.4	479.8	481.0	479.8	477.4	474.9	474.5	474.9	477.4
49.5°	465.3	465.7	467.3	469.3	469.7	469.3	467.3	465.7	465.3	465.7	467.3
50°	455.6	456.0	457.2	458.8	459.3	458.8	457.2	456.0	455.6	456.0	457.2
50.5°	446.0	446.4	447.2	448.8	448.8	448.8	447.2	446.4	446.0	446.4	447.2
51°	435.1	435.9	437.1	438.7	438.7	438.7	437.1	435.9	435.1	435.9	437.1
51.5°	424.6	425.0	426.6	428.7	429.1	428.7	426.6	425.0	424.6	425.0	426.6
52°	413.8	414.6	416.2	418.2	418.6	418.2	416.2	414.6	413.8	414.6	416.2
52.5°	402.9	403.7	405.7	407.3	408.1	407.3	405.7	403.7	402.9	403.7	405.7
53°	392.8	393.6	395.3	396.9	397.7	396.9	395.3	393.6	392.8	393.6	395.3
53.5°	382.4	383.2	384.8	386.8	387.6	386.8	384.8	383.2	382.4	383.2	384.8
54°	372.7	373.1	374.7	376.3	377.1	376.3	374.7	373.1	372.7	373.1	374.7
54.5°	363.1	363.5	365.1	366.7	367.5	366.7	365.1	363.5	363.1	363.5	365.1
55°	353.4	354.2	355.8	357.0	357.4	357.0	355.8	354.2	353.4	354.2	355.8
55.5°	344.1	344.9	346.6	347.8	348.2	347.8	346.6	344.9	344.1	344.9	346.6
56°	335.3	336.1	337.3	338.5	338.9	338.5	337.3	336.1	335.3	336.1	337.3
56.5°	326.4	327.2	328.4	329.6	330.0	329.6	328.4	327.2	326.4	327.2	328.4
57°	317.6	318.4	319.6	320.8	321.2	320.8	319.6	318.4	317.6	318.4	319.6
57.5°	308.7	309.9	311.1	311.9	312.7	311.9	311.1	309.9	308.7	309.9	311.1
58°	301.1	301.5	302.7	303.9	304.3	303.9	302.7	301.5	301.1	301.5	302.7
58.5°	293.0	293.4	294.6	295.4	295.8	295.4	294.6	293.4	293.0	293.4	294.6
59°	285.0	285.4	286.2	287.0	287.8	287.0	286.2	285.4	285.0	285.4	286.2
59.5°	276.9	277.3	278.1	279.3	279.7	279.3	278.1	277.3	276.9	277.3	278.1
60°	269.3	269.7	270.5	271.3	271.7	271.3	270.5	269.7	269.3	269.7	270.5
60.5°	261.6	262.0	262.8	263.6	264.0	263.6	262.8	262.0	261.6	262.0	262.8
61°	254.4	254.8	255.6	256.4	256.8	256.4	255.6	254.8	254.4	254.8	255.6
61.5°	247.1	247.5	248.3	249.1	249.5	249.1	248.3	247.5	247.1	247.5	248.3
62°	240.3	240.3	241.1	241.9	241.9	241.9	241.1	240.3	240.3	240.3	241.1
62.5°	233.0	233.4	233.9	234.7	235.1	234.7	233.9	233.4	233.0	233.4	233.9
63°	226.2	226.6	227.0	227.8	227.8	227.8	227.0	226.6	226.2	226.6	227.0
63.5°	219.4	219.8	220.2	221.0	221.4	221.0	220.2	219.8	219.4	219.8	220.2
64°	212.9	213.3	213.7	214.1	214.5	214.1	213.7	213.3	212.9	213.3	213.7
64.5°	206.5	206.9	207.3	207.7	208.1	207.7	207.3	206.9	206.5	206.9	207.3
65°	200.0	200.4	200.8	201.2	201.7	201.2	200.8	200.4	200.0	200.4	200.8
65.5°	194.0	194.0	194.4	195.2	195.2	195.2	194.4	194.0	194.0	194.0	194.4
66°	187.6	188.0	188.4	188.8	189.2	188.8	188.4	188.0	187.6	188.0	188.4





TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	169.9	170.3	170.7	171.1	171.1	171.1	170.7	170.3	169.9	170.3	170.7
68°	164.2	164.6	165.0	165.4	165.4	165.4	165.0	164.6	164.2	164.6	165.0
68.5°	158.6	159.0	159.4	159.4	159.8	159.4	159.4	159.0	158.6	159.0	159.4
69°	153.4	153.4	153.4	154.2	154.2	154.2	153.4	153.4	153.4	153.4	153.4
69.5°	147.7	148.1	148.1	148.5	148.9	148.5	148.1	148.1	147.7	148.1	148.1
70°	142.9	143.3	142.9	143.3	143.7	143.3	142.9	143.3	142.9	143.3	142.9
70.5°	137.7	138.1	138.1	138.1	138.5	138.1	138.1	138.1	137.7	138.1	138.1
71°	132.8	132.8	132.8	132.8	133.2	132.8	132.8	132.8	132.8	132.8	132.8
71.5°	127.6	127.6	128.0	128.0	128.0	128.0	128.0	127.6	127.6	127.6	128.0
72°	122.8	122.8	122.8	123.2	123.2	123.2	122.8	122.8	122.8	122.8	122.8
72.5°	117.9	117.9	117.9	118.3	118.3	118.3	117.9	117.9	117.9	117.9	117.9
73°	113.1	113.1	113.1	113.5	113.5	113.5	113.1	113.1	113.1	113.1	113.1
73.5°	108.3	108.3	108.7	108.7	108.7	108.7	108.7	108.3	108.3	108.3	108.7
74°	103.8	103.8	103.8	104.2	104.2	104.2	103.8	103.8	103.8	103.8	103.8
74.5°	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4	99.4
75°	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
75.5°	90.6	90.6	90.6	90.6	91.0	90.6	90.6	90.6	90.6	90.6	90.6
76°	86.5	86.1	86.1	86.5	86.5	86.5	86.1	86.1	86.5	86.1	86.1
76.5°	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1	82.1
77°	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1	78.1
77.5°	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1	74.1
78°	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0
78.5°	66.4	66.4	66.0	66.0	66.4	66.0	66.0	66.4	66.4	66.4	66.0
79°	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4
79.5°	58.8	58.8	58.4	58.8	58.8	58.8	58.4	58.8	58.8	58.8	58.4
80°	55.1	55.1	54.7	54.7	54.7	54.7	54.7	55.1	55.1	55.1	54.7
80.5°	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5	51.5
81°	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9
81.5°	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
82°	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1	41.1
82.5°	37.8	37.8	37.8	37.8	37.4	37.8	37.8	37.8	37.8	37.8	37.8
83°	34.6	34.6	34.6	34.2	34.2	34.2	34.6	34.6	34.6	34.6	34.6
83.5°	31.4	31.4	31.4	31.0	31.0	31.0	31.4	31.4	31.4	31.4	31.4
84°	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2
84.5°	25.4	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.4	25.0	25.0
85°	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
85.5°	19.3	18.9	19.3	18.9	19.3	18.9	19.3	18.9	19.3	18.9	19.3
86°	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
86.5°	13.7	13.3	13.3	13.3	13.7	13.3	13.3	13.3	13.7	13.3	13.3
87°	10.9	10.9	10.9	10.5	10.9	10.5	10.9	10.9	10.9	10.9	10.9
87.5°	8.0	8.0	8.0	8.0	8.5	8.0	8.0	8.0	8.0	8.0	8.0
88°	5.2	5.6	5.6	6.0	6.0	6.0	5.6	5.6	5.2	5.6	5.6
88.5°	3.2	3.2	3.6	4.0	4.8	4.0	3.6	3.2	3.2	3.2	3.6



TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	0.4	0.8	1.2	0.8	0.4	0.0	0.0	0.0	0.4



TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3005.5	3005.5	3005.5	3005.5	3005.5	3005.5
0.5°	3004.3	3003.0	3004.3	3004.7	3005.5	3005.9
1°	3003.5	3001.8	3003.5	3003.9	3004.3	3004.7
1.5°	3001.4	3000.2	3001.4	3002.2	3002.2	3003.0
2°	2999.0	2997.4	2999.0	2999.4	3000.2	3000.6
2.5°	2995.8	2993.8	2995.8	2996.2	2997.0	2997.8
3°	2991.4	2989.4	2991.4	2992.2	2993.0	2993.8
3.5°	2986.5	2985.3	2986.5	2987.4	2988.6	2989.4
4°	2981.3	2979.3	2981.3	2982.1	2983.7	2984.1
4.5°	2975.3	2972.9	2975.3	2976.1	2977.7	2978.5
5°	2969.2	2966.4	2969.2	2970.0	2971.7	2972.9
5.5°	2961.2	2958.8	2961.2	2962.0	2964.0	2966.8
6°	2952.7	2949.5	2952.7	2953.9	2956.0	2957.6
6.5°	2943.5	2940.3	2943.5	2944.7	2947.1	2948.3
7°	2933.8	2931.0	2933.8	2935.8	2937.0	2938.6
7.5°	2923.8	2920.9	2923.8	2924.6	2926.2	2927.8
8°	2912.1	2910.5	2912.1	2913.3	2914.9	2916.1
8.5°	2899.6	2898.0	2899.6	2900.8	2902.4	2904.0
9°	2886.7	2885.1	2886.7	2887.9	2889.9	2891.2
9.5°	2873.0	2871.4	2873.0	2874.2	2876.3	2877.1
10°	2858.6	2856.5	2858.6	2860.2	2861.8	2863.0
10.5°	2843.3	2841.6	2843.3	2844.5	2846.5	2847.3
11°	2827.6	2825.5	2827.6	2829.2	2830.8	2831.6
11.5°	2811.1	2809.4	2811.1	2812.7	2814.3	2815.1
12°	2794.2	2792.5	2794.2	2796.2	2797.4	2798.2
12.5°	2776.4	2774.4	2776.4	2778.5	2779.7	2780.5
13°	2758.7	2756.7	2758.7	2760.3	2761.5	2762.4
13.5°	2740.2	2738.6	2740.2	2741.8	2742.6	2743.4
14°	2721.3	2719.7	2721.3	2722.9	2723.7	2724.1
14.5°	2701.6	2700.0	2701.6	2703.2	2703.6	2704.0
15°	2682.3	2680.6	2682.3	2683.1	2683.9	2683.9
15.5°	2662.9	2662.1	2662.9	2663.7	2662.9	2662.9
16°	2644.0	2643.2	2644.0	2644.4	2643.2	2642.8
16.5°	2625.1	2624.7	2625.1	2625.1	2623.5	2622.7
17°	2605.8	2606.2	2605.8	2606.2	2604.6	2603.8
17.5°	2586.9	2586.5	2586.9	2587.3	2586.1	2585.3
18°	2567.5	2566.7	2567.5	2568.3	2567.5	2567.1
18.5°	2547.0	2545.8	2547.0	2547.8	2547.8	2547.8
19°	2524.9	2523.7	2524.9	2526.1	2526.9	2528.1
19.5°	2501.5	2500.3	2501.5	2502.3	2504.8	2506.4
20°	2476.6	2473.8	2476.6	2476.2	2480.6	2482.6
20.5°	2449.6	2446.4	2449.6	2448.0	2453.2	2456.5
21°	2420.2	2416.2	2420.2	2418.2	2424.3	2429.1



TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2319.6	2317.6	2319.6	2320.0	2324.0	2328.9
23°	2283.0	2282.2	2283.0	2285.8	2286.6	2290.6
23.5°	2245.1	2247.2	2245.1	2250.0	2248.0	2251.6
24°	2206.5	2210.1	2206.5	2212.9	2208.1	2210.9
24.5°	2167.5	2172.3	2167.5	2173.9	2167.9	2169.1
25°	2128.4	2132.0	2128.4	2133.2	2126.0	2125.2
25.5°	2089.4	2090.2	2089.4	2091.4	2084.9	2079.7
26°	2048.7	2045.5	2048.7	2048.3	2042.3	2033.0
26.5°	2006.5	1999.2	2006.5	2003.6	1998.8	1985.1
27°	1963.0	1952.1	1963.0	1958.6	1953.7	1938.4
27.5°	1918.3	1904.2	1918.3	1912.7	1907.0	1892.6
28°	1871.6	1856.3	1871.6	1866.0	1860.4	1846.7
28.5°	1824.1	1810.0	1824.1	1819.3	1812.9	1802.0
29°	1775.8	1766.2	1775.8	1772.6	1765.0	1757.7
29.5°	1727.5	1723.1	1727.5	1726.3	1717.9	1714.2
30°	1679.2	1679.6	1679.2	1678.8	1669.6	1670.8
30.5°	1632.5	1638.6	1632.5	1631.7	1622.9	1625.7
31°	1585.8	1595.1	1585.8	1584.2	1575.0	1581.0
31.5°	1539.6	1551.2	1539.6	1536.7	1529.1	1535.1
32°	1494.1	1506.2	1494.1	1489.7	1482.8	1488.4
32.5°	1449.0	1461.1	1449.0	1443.4	1438.5	1443.4
33°	1403.9	1415.2	1403.9	1395.9	1394.3	1397.9
33.5°	1358.8	1368.9	1358.8	1348.8	1350.0	1357.2
34°	1314.6	1325.0	1314.6	1302.1	1305.7	1313.4
34.5°	1269.9	1281.6	1269.9	1256.6	1261.8	1269.9
35°	1226.8	1239.3	1226.8	1213.5	1219.2	1226.0
35.5°	1184.2	1197.8	1184.2	1170.9	1176.9	1183.3
36°	1143.1	1157.2	1143.1	1129.4	1134.6	1141.5
36.5°	1102.4	1115.7	1102.4	1089.2	1094.0	1100.0
37°	1063.0	1074.7	1063.0	1049.7	1053.7	1058.2
37.5°	1025.2	1033.6	1025.2	1011.9	1014.7	1017.5
38°	988.1	993.0	988.1	975.7	976.9	977.3
38.5°	951.9	953.9	951.9	941.0	940.2	939.4
39°	916.9	916.5	916.9	906.4	904.8	902.8
39.5°	882.3	881.1	882.3	873.4	870.6	867.0
40°	848.9	847.3	848.9	841.6	836.8	832.8
40.5°	816.3	815.9	816.3	811.0	804.6	800.6
41°	785.7	786.9	785.7	782.1	773.6	769.6
41.5°	756.3	759.9	756.3	754.3	744.6	740.2
42°	728.9	733.8	728.9	727.7	717.3	712.8
42.5°	703.2	708.4	703.2	702.8	691.5	687.1
43°	679.0	683.8	679.0	678.2	667.3	662.5
43.5°	655.7	660.1	655.7	655.3	644.8	640.0

TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	594.5	596.5	594.5	592.5	586.0	582.0
45.5°	576.4	578.0	576.4	574.4	568.3	565.1
46°	559.9	560.7	559.9	557.1	551.8	549.0
46.5°	543.8	544.6	543.8	540.6	536.5	534.1
47°	528.9	530.1	528.9	525.7	521.6	520.0
47.5°	515.2	516.8	515.2	511.6	508.0	506.7
48°	502.7	504.3	502.7	499.5	495.9	494.3
48.5°	491.0	492.3	491.0	487.8	485.0	484.2
49°	479.8	481.0	479.8	477.4	474.9	474.5
49.5°	469.3	469.7	469.3	467.3	465.7	465.3
50°	458.8	459.3	458.8	457.2	456.0	455.6
50.5°	448.8	448.8	448.8	447.2	446.4	446.0
51°	438.7	438.7	438.7	437.1	435.9	435.1
51.5°	428.7	429.1	428.7	426.6	425.0	424.6
52°	418.2	418.6	418.2	416.2	414.6	413.8
52.5°	407.3	408.1	407.3	405.7	403.7	402.9
53°	396.9	397.7	396.9	395.3	393.6	392.8
53.5°	386.8	387.6	386.8	384.8	383.2	382.4
54°	376.3	377.1	376.3	374.7	373.1	372.7
54.5°	366.7	367.5	366.7	365.1	363.5	363.1
55°	357.0	357.4	357.0	355.8	354.2	353.4
55.5°	347.8	348.2	347.8	346.6	344.9	344.1
56°	338.5	338.9	338.5	337.3	336.1	335.3
56.5°	329.6	330.0	329.6	328.4	327.2	326.4
57°	320.8	321.2	320.8	319.6	318.4	317.6
57.5°	311.9	312.7	311.9	311.1	309.9	308.7
58°	303.9	304.3	303.9	302.7	301.5	301.1
58.5°	295.4	295.8	295.4	294.6	293.4	293.0
59°	287.0	287.8	287.0	286.2	285.4	285.0
59.5°	279.3	279.7	279.3	278.1	277.3	276.9
60°	271.3	271.7	271.3	270.5	269.7	269.3
60.5°	263.6	264.0	263.6	262.8	262.0	261.6
61°	256.4	256.8	256.4	255.6	254.8	254.4
61.5°	249.1	249.5	249.1	248.3	247.5	247.1
62°	241.9	241.9	241.9	241.1	240.3	240.3
62.5°	234.7	235.1	234.7	233.9	233.4	233.0
63°	227.8	227.8	227.8	227.0	226.6	226.2
63.5°	221.0	221.4	221.0	220.2	219.8	219.4
64°	214.1	214.5	214.1	213.7	213.3	212.9
64.5°	207.7	208.1	207.7	207.3	206.9	206.5
65°	201.2	201.7	201.2	200.8	200.4	200.0
65.5°	195.2	195.2	195.2	194.4	194.0	194.0
66°	188.8	189.2	188.8	188.4	188.0	187.6



TEST NUMBER: P776539

CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	171.1	171.1	171.1	170.7	170.3	169.9
68°	165.4	165.4	165.4	165.0	164.6	164.2
68.5°	159.4	159.8	159.4	159.4	159.0	158.6
69°	154.2	154.2	154.2	153.4	153.4	153.4
69.5°	148.5	148.9	148.5	148.1	148.1	147.7
70°	143.3	143.7	143.3	142.9	143.3	142.9
70.5°	138.1	138.5	138.1	138.1	138.1	137.7
71°	132.8	133.2	132.8	132.8	132.8	132.8
71.5°	128.0	128.0	128.0	128.0	127.6	127.6
72°	123.2	123.2	123.2	122.8	122.8	122.8
72.5°	118.3	118.3	118.3	117.9	117.9	117.9
73°	113.5	113.5	113.5	113.1	113.1	113.1
73.5°	108.7	108.7	108.7	108.7	108.3	108.3
74°	104.2	104.2	104.2	103.8	103.8	103.8
74.5°	99.4	99.4	99.4	99.4	99.4	99.4
75°	95.0	95.0	95.0	95.0	95.0	95.0
75.5°	90.6	91.0	90.6	90.6	90.6	90.6
76°	86.5	86.5	86.5	86.1	86.1	86.5
76.5°	82.1	82.1	82.1	82.1	82.1	82.1
77°	78.1	78.1	78.1	78.1	78.1	78.1
77.5°	74.1	74.1	74.1	74.1	74.1	74.1
78°	70.0	70.0	70.0	70.0	70.0	70.0
78.5°	66.0	66.4	66.0	66.0	66.4	66.4
79°	62.4	62.4	62.4	62.4	62.4	62.4
79.5°	58.8	58.8	58.8	58.4	58.8	58.8
80°	54.7	54.7	54.7	54.7	55.1	55.1
80.5°	51.5	51.5	51.5	51.5	51.5	51.5
81°	47.9	47.9	47.9	47.9	47.9	47.9
81.5°	44.3	44.3	44.3	44.3	44.3	44.3
82°	41.1	41.1	41.1	41.1	41.1	41.1
82.5°	37.8	37.4	37.8	37.8	37.8	37.8
83°	34.2	34.2	34.2	34.6	34.6	34.6
83.5°	31.0	31.0	31.0	31.4	31.4	31.4
84°	28.2	28.2	28.2	28.2	28.2	28.2
84.5°	25.0	25.0	25.0	25.0	25.0	25.4
85°	22.1	22.1	22.1	22.1	22.1	22.1
85.5°	18.9	19.3	18.9	19.3	18.9	19.3
86°	16.1	16.1	16.1	16.1	16.1	16.1
86.5°	13.3	13.7	13.3	13.3	13.3	13.7
87°	10.5	10.9	10.5	10.9	10.9	10.9
87.5°	8.0	8.5	8.0	8.0	8.0	8.0
88°	6.0	6.0	6.0	5.6	5.6	5.2
88.5°	4.0	4.8	4.0	3.6	3.2	3.2



TEST NUMBER: P776539  
CATALOG NUMBER: HCDJBL54050CSD-HCD42TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.8	1.2	0.8	0.4	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°	2397.3	2393.3	2386.4	2388.4	2384.4	2388.4	2386.4	2393.3	2397.3	2393.3	2386.4
22°	2363.9	2359.9	2353.8	2354.6	2350.6	2354.6	2353.8	2359.9	2363.9	2359.9	2353.8



44°	619.0	623.9	633.1	633.9	638.0	633.9	633.1	623.9	619.0	623.9	633.1
44.5°	599.7	604.6	612.6	613.8	616.6	613.8	612.6	604.6	599.7	604.6	612.6



66.5°	181.5	181.9	182.3	182.7	183.1	182.7	182.3	181.9	181.5	181.9	182.3
67°	175.9	175.9	176.3	176.7	177.1	176.7	176.3	175.9	175.9	175.9	176.3



89°	1.2	1.6	2.4	2.8	3.2	2.8	2.4	1.6	1.2	1.6	2.4
89.5°	0.0	0.4	1.2	1.6	2.0	1.6	1.2	0.4	0.0	0.4	1.2



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21.5°	2388.4	2384.4	2388.4	2386.4	2393.3	2397.3
22°	2354.6	2350.6	2354.6	2353.8	2359.9	2363.9

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44°	633.9	638.0	633.9	633.1	623.9	619.0
44.5°	613.8	616.6	613.8	612.6	604.6	599.7



66.5°	182.7	183.1	182.7	182.3	181.9	181.5
67°	176.7	177.1	176.7	176.3	175.9	175.9

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89°	2.8	3.2	2.8	2.4	1.6	1.2
89.5°	1.6	2.0	1.6	1.2	0.4	0.0

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Scaled Data Report



(END OF REPORT)