

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: P776818

Luminaire Tested: HCDJBS4050CSD-HCD8TRMW-5000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776818  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2310613A001)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD8TRMW-5000lm-4000K  
Description: 8 INCH ROUND MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

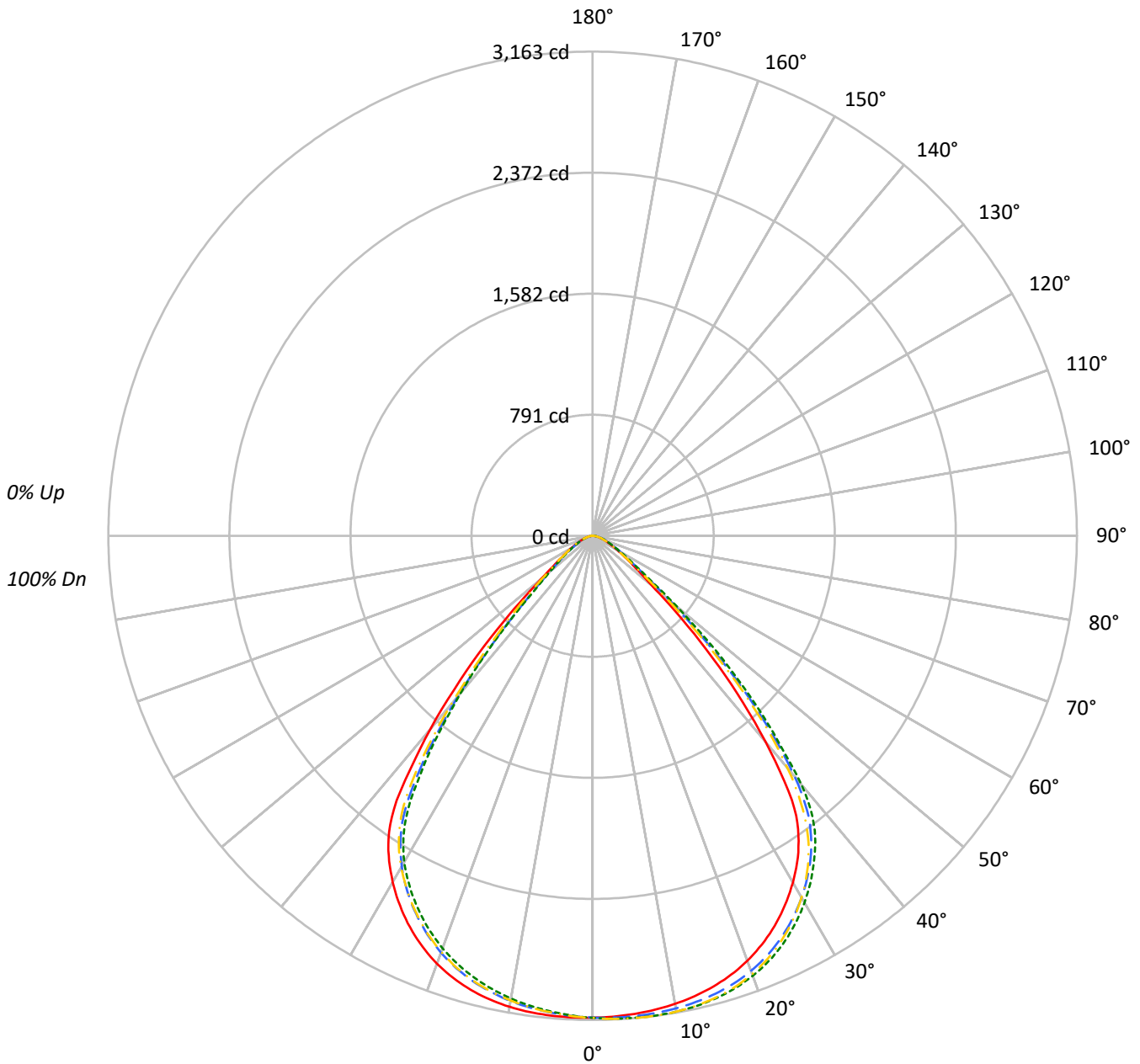
Lumens per Lamp: N/A  
Luminaire Lumens: 5100.1 lumens  
Efficiency: N/A  
Efficacy: 106.3 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.22 / 1.18  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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										
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								
1	112	109	106	103	110	107	104	102	103	100	98	99	97	95	95	94	93	91								
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	86	84	82								
3	98	91	85	80	96	89	84	79	86	82	78	84	80	77	81	78	75	74								
4	92	83	76	71	90	82	75	71	79	74	70	77	73	69	75	71	68	66								
5	86	76	69	64	84	75	68	64	73	67	63	71	66	62	70	65	62	60								
6	81	70	63	58	79	69	62	58	68	62	57	66	61	57	65	60	56	55								
7	76	65	58	53	74	64	57	52	63	56	52	61	56	52	60	55	51	50								
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46								
9	67	56	49	44	66	55	48	44	54	48	44	53	48	44	52	47	43	42								
10	63	52	45	41	62	51	45	41	51	45	40	50	44	40	49	44	40	39								

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

	0°	90°	180°	270°
0°	96128	96128	96128	96128
5°	96084	96878	96421	95615
10°	96262	97849	96870	95152
15°	96361	98823	97072	94443
20°	95991	99392	96611	93148
25°	94743	99092	95080	90731
30°	92205	97549	92053	86744
35°	87198	94309	85968	75812
40°	70012	84571	65724	53246
45°	45439	59601	40651	29606
50°	24071	33860	20941	17123
55°	15702	17996	13360	11960
60°	11272	12524	9666	8994
65°	8741	9673	7527	7152
70°	7043	7980	6061	5766
75°	5804	6830	4848	4565
80°	4624	5960	3622	3358
85°	3363	5535	1997	1681

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 60840 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.0	5.9
10°-20°	863.0	16.9
20°-30°	1294.6	25.4
30°-40°	1401.2	27.5
40°-50°	798.1	15.6
50°-60°	264.9	5.2
60°-70°	116.9	2.3
70°-80°	51.0	1.0
80°-90°	11.3	0.2
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°	2456.6	48.2
0°-40°	3857.9	75.6
0°-60°	4920.9	96.5
0°-90°	5100.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5100.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3149	3149	3149	3149	3149	
5°	3135	3161	3146	3120	3135	298
15°	3049	3127	3071	2988	3049	860
25°	2812	2942	2822	2693	2812	1293
35°	2340	2530	2307	2034	2340	1424
45°	1052	1380	942	686	1052	819
55°	295	338	251	225	295	275
65°	121	134	104	99	121	123
75°	49	58	41	39	49	53
85°	10	16	6	5	10	12
90°	0	2	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°	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6
0.5°	3147.2	3148.2	3148.2	3148.6	3150.6	3152.0	3153.4	3151.5	3148.6	3147.2	3145.8
1°	3146.7	3148.2	3148.6	3149.6	3152.5	3153.9	3154.9	3152.5	3149.1	3146.7	3144.3
1.5°	3145.8	3147.7	3149.6	3151.0	3153.9	3155.8	3156.3	3153.4	3149.1	3146.2	3142.9
2°	3144.8	3147.7	3150.1	3152.5	3155.3	3157.7	3157.7	3154.4	3149.1	3145.3	3141.0
2.5°	3143.9	3147.2	3150.6	3153.4	3156.8	3158.7	3158.7	3154.9	3149.1	3144.3	3139.1
3°	3142.4	3146.7	3150.6	3154.4	3158.2	3160.6	3159.6	3155.3	3149.1	3142.9	3137.2
3.5°	3140.5	3146.2	3150.6	3155.3	3159.2	3161.5	3161.1	3155.3	3148.2	3141.9	3134.8
4°	3139.1	3145.3	3150.6	3155.8	3160.1	3162.5	3161.5	3155.8	3147.7	3140.5	3132.4
4.5°	3137.6	3143.9	3150.1	3156.3	3160.6	3163.5	3162.0	3155.8	3147.2	3138.6	3130.0
5°	3135.2	3142.4	3149.6	3156.3	3161.1	3163.9	3162.5	3155.3	3146.2	3136.7	3127.1
5.5°	3133.3	3141.5	3149.1	3156.8	3161.1	3164.4	3162.5	3154.9	3145.3	3134.8	3124.3
6°	3130.9	3139.6	3148.2	3156.8	3161.5	3164.9	3163.0	3154.4	3143.9	3132.4	3120.9
6.5°	3128.6	3138.1	3147.2	3156.3	3161.5	3164.9	3163.0	3153.4	3142.4	3130.0	3117.6
7°	3126.2	3135.7	3146.2	3155.8	3161.5	3164.9	3162.5	3152.5	3140.5	3127.1	3113.7
7.5°	3123.3	3133.8	3144.8	3155.3	3161.1	3164.9	3162.0	3151.5	3138.6	3124.3	3109.9
8°	3119.9	3131.4	3143.4	3154.4	3160.6	3164.4	3161.1	3150.1	3136.2	3121.4	3105.6
8.5°	3116.6	3129.0	3141.5	3153.4	3159.6	3163.9	3160.1	3148.2	3133.8	3117.6	3101.3
9°	3113.3	3126.2	3139.6	3152.0	3158.7	3163.5	3159.2	3146.2	3130.9	3114.2	3096.5
9.5°	3109.4	3122.8	3137.6	3151.0	3157.7	3162.0	3157.7	3143.9	3128.1	3109.9	3091.3
10°	3105.1	3119.5	3134.8	3149.1	3156.3	3161.1	3155.8	3141.5	3124.7	3105.6	3085.5
10.5°	3100.8	3116.1	3132.4	3147.7	3154.4	3159.2	3153.9	3138.6	3120.9	3100.8	3080.3
11°	3096.5	3112.3	3129.5	3145.3	3152.5	3157.2	3151.5	3135.7	3116.6	3095.6	3074.5
11.5°	3091.3	3108.0	3126.6	3143.4	3150.6	3155.3	3149.1	3132.4	3112.3	3090.8	3068.3
12°	3086.0	3103.7	3123.3	3141.0	3148.2	3152.9	3146.2	3128.6	3107.5	3085.0	3061.1
12.5°	3080.7	3099.4	3119.5	3138.1	3145.3	3150.6	3142.9	3124.3	3102.3	3078.8	3054.4
13°	3074.5	3094.1	3115.6	3134.8	3142.4	3147.7	3139.6	3119.5	3097.0	3072.1	3046.8
13.5°	3068.8	3088.9	3111.3	3131.9	3138.6	3144.3	3135.2	3114.7	3091.3	3065.4	3039.1
14°	3062.6	3083.1	3107.0	3128.1	3135.2	3140.5	3130.9	3109.4	3085.0	3058.3	3030.5
14.5°	3055.9	3077.4	3102.3	3124.3	3130.9	3136.7	3126.6	3103.7	3078.3	3050.6	3022.4
15°	3048.7	3071.7	3097.5	3119.9	3126.6	3132.4	3121.9	3097.5	3071.2	3042.0	3013.3
15.5°	3041.1	3065.0	3091.7	3115.2	3121.4	3127.6	3116.6	3091.3	3063.5	3033.4	3003.8
16°	3032.9	3058.3	3086.0	3109.9	3116.6	3122.3	3110.9	3084.1	3055.4	3024.3	2993.7
16.5°	3024.8	3051.1	3079.8	3104.6	3110.9	3117.1	3104.2	3076.4	3046.8	3014.8	2983.7
17°	3015.7	3043.4	3073.6	3098.9	3104.6	3111.3	3097.5	3068.3	3038.2	3004.7	2972.2
17.5°	3007.1	3035.3	3066.4	3092.7	3098.4	3105.1	3090.3	3059.7	3028.6	2994.7	2961.2
18°	2997.5	3027.2	3059.2	3085.5	3091.7	3098.4	3082.7	3050.6	3018.6	2983.2	2949.2
18.5°	2987.5	3018.1	3051.1	3078.8	3084.1	3090.8	3074.0	3041.5	3008.1	2971.7	2937.3
19°	2976.5	3009.0	3043.0	3071.2	3076.0	3082.7	3065.4	3031.5	2997.5	2959.8	2924.4
19.5°	2965.5	2999.5	3034.4	3063.0	3067.8	3075.0	3056.8	3021.0	2985.6	2947.3	2910.5
20°	2954.5	2988.9	3024.3	3054.4	3059.2	3065.9	3047.3	3009.5	2973.6	2933.9	2896.7
20.5°	2942.6	2978.4	3015.2	3045.4	3049.7	3056.4	3036.8	2998.0	2961.2	2920.6	2882.8
21°	2930.1	2967.4	3005.2	3036.3	3040.1	3046.3	3025.8	2985.6	2947.8	2906.2	2867.0

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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°	2890.0	2930.6	2971.2	3004.2	3007.1	3013.8	2989.9	2945.9	2905.3	2860.8	2819.2
23°	2875.6	2917.7	2959.3	2992.8	2995.6	3001.4	2977.0	2931.1	2890.0	2844.1	2801.5
23.5°	2860.3	2904.3	2946.4	2980.8	2983.2	2989.4	2962.6	2916.3	2873.2	2826.8	2783.8
24°	2845.0	2890.0	2932.5	2967.9	2969.8	2976.0	2948.8	2900.5	2857.0	2809.1	2765.6
24.5°	2828.8	2875.6	2919.6	2954.5	2955.9	2962.2	2933.9	2884.2	2840.2	2791.5	2746.5
25°	2812.5	2859.8	2904.8	2940.6	2941.6	2947.8	2918.6	2867.5	2822.5	2772.3	2726.9
25.5°	2795.3	2844.1	2890.0	2926.3	2926.8	2933.0	2902.4	2849.8	2803.9	2752.2	2706.8
26°	2777.1	2827.8	2873.7	2911.5	2912.0	2917.7	2885.7	2831.6	2784.3	2732.2	2685.8
26.5°	2758.9	2810.6	2858.4	2895.7	2895.2	2901.4	2868.0	2812.5	2765.2	2712.6	2665.2
27°	2740.3	2793.4	2841.7	2879.9	2879.0	2884.2	2850.3	2793.4	2745.1	2691.0	2642.8
27.5°	2721.2	2774.7	2824.0	2863.2	2861.7	2867.0	2831.6	2773.3	2724.5	2669.5	2620.3
28°	2701.6	2756.6	2806.8	2846.0	2844.1	2848.8	2812.5	2753.2	2703.0	2648.0	2596.8
28.5°	2680.5	2736.9	2787.6	2827.8	2825.4	2830.7	2792.4	2731.7	2681.0	2624.6	2573.4
29°	2659.5	2717.3	2769.0	2809.6	2806.8	2811.1	2771.4	2709.7	2658.5	2601.2	2548.1
29.5°	2637.5	2696.3	2748.9	2791.0	2787.2	2791.0	2750.3	2686.7	2635.1	2576.8	2521.3
30°	2615.5	2675.7	2729.3	2770.9	2767.1	2770.4	2728.3	2663.8	2611.2	2552.4	2493.6
30.5°	2591.6	2654.2	2707.8	2751.3	2746.0	2749.4	2706.3	2640.4	2585.9	2525.6	2464.4
31°	2568.2	2631.8	2686.7	2730.3	2724.5	2727.9	2682.9	2615.0	2561.5	2498.3	2434.8
31.5°	2544.3	2607.4	2664.7	2708.7	2702.0	2704.9	2659.0	2588.7	2534.2	2470.6	2403.2
32°	2519.4	2584.9	2641.8	2686.3	2681.0	2682.4	2633.7	2561.5	2507.0	2441.9	2370.2
32.5°	2493.1	2560.0	2618.4	2664.3	2657.1	2658.5	2606.9	2533.3	2478.7	2410.4	2334.8
33°	2465.8	2534.7	2594.9	2641.3	2633.2	2633.7	2579.2	2504.6	2449.6	2376.9	2296.6
33.5°	2436.2	2508.9	2570.6	2617.4	2608.3	2608.3	2551.4	2473.5	2417.5	2340.6	2254.0
34°	2406.5	2481.1	2544.7	2593.5	2583.5	2581.5	2520.8	2441.4	2384.1	2301.8	2206.2
34.5°	2374.0	2451.0	2517.0	2568.2	2557.2	2553.3	2490.7	2407.5	2347.7	2254.0	2153.6
35°	2339.6	2420.4	2489.3	2542.3	2530.4	2524.6	2458.2	2371.2	2306.6	2203.8	2095.7
35.5°	2300.9	2386.9	2458.7	2515.1	2502.7	2495.0	2424.2	2329.6	2259.3	2149.3	2032.2
36°	2261.2	2351.6	2427.6	2486.9	2474.4	2464.4	2386.5	2283.7	2208.6	2087.1	1964.7
36.5°	2215.8	2314.3	2393.6	2458.2	2443.4	2430.5	2346.3	2235.4	2150.7	2019.7	1895.4
37°	2163.2	2270.7	2358.3	2426.6	2410.8	2393.6	2303.3	2185.2	2084.3	1949.0	1824.6
37.5°	2101.0	2222.5	2319.0	2391.7	2373.6	2353.0	2255.9	2128.3	2010.6	1874.8	1750.0
38°	2034.1	2167.9	2274.1	2353.0	2333.4	2310.4	2206.2	2070.4	1934.6	1797.4	1674.0
38.5°	1964.3	2106.3	2224.4	2310.4	2288.4	2263.1	2155.5	2007.8	1858.1	1719.0	1596.6
39°	1894.4	2038.8	2171.8	2262.6	2240.1	2213.8	2100.0	1944.6	1787.3	1640.5	1519.6
39.5°	1825.6	1970.9	2114.4	2212.9	2184.7	2157.4	2042.2	1874.4	1718.5	1564.5	1442.6
40°	1756.7	1905.0	2052.7	2156.5	2122.0	2100.5	1979.1	1804.5	1649.1	1490.4	1365.1
40.5°	1684.5	1841.4	1985.8	2095.7	2047.0	2037.4	1916.0	1730.0	1576.9	1415.8	1289.1
41°	1612.8	1774.4	1915.5	2030.2	1970.0	1974.8	1850.5	1655.8	1501.9	1339.3	1214.0
41.5°	1540.6	1706.1	1843.8	1960.4	1891.1	1906.9	1784.0	1581.3	1427.8	1263.3	1141.8
42°	1468.4	1634.3	1771.6	1885.4	1817.0	1835.2	1715.1	1510.0	1354.1	1192.5	1068.2
42.5°	1396.7	1558.8	1697.4	1807.4	1748.6	1760.6	1641.0	1434.9	1282.4	1121.7	997.4
43°	1327.4	1483.7	1620.5	1726.6	1679.3	1686.9	1563.6	1361.3	1213.6	1054.8	931.9
43.5°	1258.5	1409.6	1545.4	1648.2	1606.6	1611.9	1487.1	1287.2	1146.1	990.3	867.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1052.4	1192.0	1314.4	1409.1	1380.4	1391.9	1252.8	1072.5	941.5	809.0	699.5
45.5°	986.4	1120.3	1236.5	1335.0	1307.3	1319.2	1173.4	1002.7	876.9	751.2	649.8
46°	921.4	1049.1	1158.1	1258.0	1237.0	1245.6	1102.6	934.3	814.3	698.1	605.8
46.5°	858.8	979.3	1084.0	1186.8	1167.6	1172.0	1027.6	867.4	755.5	644.6	564.2
47°	797.6	911.4	1010.3	1116.0	1098.3	1099.8	958.7	804.3	700.5	597.2	526.4
47.5°	736.4	844.4	944.4	1048.6	1028.0	1028.0	892.2	742.6	646.5	553.7	491.5
48°	682.3	782.3	879.3	983.1	958.7	959.2	829.6	684.7	595.8	514.0	460.5
48.5°	630.7	723.0	817.2	921.4	892.2	891.8	766.0	629.2	548.4	476.7	436.6
49°	583.8	667.0	760.3	858.8	829.1	824.8	708.1	579.0	505.4	449.9	412.2
49.5°	541.3	618.3	706.7	800.0	769.8	761.2	654.1	533.6	467.2	423.2	387.8
50°	506.8	571.9	657.5	742.1	712.9	699.1	603.9	493.0	440.9	396.4	363.4
50.5°	475.8	531.7	610.1	686.6	657.9	643.1	554.7	457.1	414.6	369.6	339.0
51°	447.6	495.8	567.6	635.5	603.0	590.0	512.1	429.9	388.3	343.3	323.7
51.5°	421.7	465.7	528.4	588.1	556.1	544.6	472.9	402.1	362.0	327.1	309.4
52°	399.3	437.5	492.5	544.1	511.1	502.1	445.2	374.4	336.1	312.7	295.5
52.5°	377.7	413.1	460.9	504.5	471.0	464.3	417.4	347.1	320.8	298.8	281.2
53°	357.2	390.2	430.8	469.1	444.2	435.6	390.2	329.4	306.5	284.5	267.8
53.5°	338.5	369.1	404.0	437.0	417.9	407.4	362.4	314.6	292.2	270.6	254.9
54°	324.2	349.1	378.7	406.9	391.1	378.7	335.2	300.3	278.3	257.2	242.9
54.5°	309.8	332.8	356.7	381.1	364.4	350.5	319.4	285.5	264.4	244.8	231.4
55°	295.0	317.5	337.6	357.2	338.1	332.8	304.6	271.1	251.0	232.9	220.4
55.5°	281.2	303.1	322.3	337.6	321.8	318.0	289.8	257.7	238.6	221.9	210.9
56°	267.8	288.8	307.0	321.8	307.5	302.7	274.9	244.3	227.6	211.8	201.3
56.5°	254.9	274.9	293.1	307.0	292.2	287.8	261.1	232.4	217.1	202.3	192.7
57°	242.4	261.5	278.3	292.2	277.3	273.5	248.2	221.4	206.6	193.7	184.6
57.5°	231.4	248.6	264.9	277.8	263.5	259.2	235.7	211.3	197.5	185.5	176.9
58°	220.4	236.7	251.5	263.5	250.1	246.2	224.3	201.3	188.9	177.4	169.7
58.5°	210.9	225.7	239.6	250.6	237.6	234.3	213.7	192.2	180.7	170.2	162.6
59°	201.3	215.6	228.1	238.1	226.2	222.8	203.7	183.6	173.1	163.1	155.9
59.5°	193.2	206.1	217.6	226.6	215.2	212.3	194.1	176.0	165.4	156.4	149.7
60°	184.6	197.0	207.5	216.1	205.1	202.3	185.5	168.8	158.3	150.1	143.9
60.5°	176.4	188.4	198.4	206.1	196.0	193.2	177.9	161.6	152.1	143.9	138.2
61°	169.7	180.7	189.8	196.5	187.4	184.6	170.2	154.9	145.4	138.2	132.9
61.5°	163.1	172.6	181.7	187.9	179.3	176.9	163.1	148.7	139.1	132.9	127.7
62°	156.4	166.4	174.0	179.8	171.7	168.8	156.4	142.5	133.4	127.2	122.9
62.5°	149.7	159.7	167.8	171.7	164.5	162.1	149.7	136.8	128.1	122.4	118.1
63°	143.0	153.5	161.1	165.4	157.3	154.9	143.9	131.5	122.9	117.6	113.3
63.5°	137.2	146.8	154.9	158.7	151.1	148.7	138.2	126.2	118.1	112.8	109.0
64°	131.5	140.6	148.2	152.5	144.9	143.0	132.4	121.0	112.8	108.1	104.7
64.5°	126.2	134.8	141.5	146.3	139.1	137.2	127.7	116.2	108.5	104.2	100.4
65°	121.0	129.1	136.3	140.1	133.9	132.0	122.4	111.4	104.2	99.5	96.6
65.5°	115.7	124.3	130.5	134.8	128.1	126.7	117.6	107.1	99.9	95.6	92.8
66°	111.4	119.1	125.8	129.6	123.4	121.9	112.8	102.8	95.6	91.8	88.9





TEST NUMBER: P776818

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	98.0	105.2	111.4	114.8	109.5	108.1	100.4	90.8	84.2	80.8	78.4
68°	93.7	100.9	107.1	110.5	105.2	103.8	96.6	87.0	80.8	77.5	75.1
68.5°	89.9	96.6	102.8	106.1	100.9	99.5	92.3	83.2	77.5	74.1	72.2
69°	86.1	92.8	98.5	101.8	97.1	95.6	88.9	79.9	74.1	70.8	68.9
69.5°	82.7	88.9	94.7	97.5	93.2	91.8	85.1	76.5	70.8	67.9	66.0
70°	78.9	85.1	90.8	93.7	89.4	88.0	81.8	73.2	67.9	64.6	63.1
70.5°	75.5	81.8	87.0	89.9	85.6	84.6	78.4	69.8	64.6	61.7	60.2
71°	72.2	77.9	83.7	86.5	82.2	81.3	75.1	66.9	61.7	58.8	57.4
71.5°	68.9	74.6	80.3	82.7	78.9	77.9	72.2	64.1	58.8	55.9	54.5
72°	66.0	71.7	77.0	79.4	75.5	74.6	68.9	61.2	55.9	53.1	52.1
72.5°	63.1	68.4	73.6	76.0	72.7	71.2	66.0	58.3	53.6	50.7	49.2
73°	60.2	65.5	70.3	73.2	69.3	68.4	63.1	55.5	50.7	48.3	46.9
73.5°	57.4	62.2	67.4	69.8	66.5	65.5	60.2	53.1	48.3	45.4	44.5
74°	54.5	59.3	64.6	66.9	63.6	62.6	57.4	50.2	45.9	43.0	42.1
74.5°	51.6	56.4	61.2	64.1	60.7	59.8	55.0	47.8	43.5	40.6	40.2
75°	49.2	54.0	58.8	61.2	57.9	56.9	52.1	45.4	41.1	38.7	37.8
75.5°	46.4	51.2	55.9	58.3	55.5	54.5	49.7	43.0	38.7	36.3	35.4
76°	44.0	48.3	53.1	55.9	52.6	52.1	47.3	40.6	36.3	33.9	33.5
76.5°	41.6	45.9	50.7	53.1	50.2	49.2	44.9	38.3	34.4	32.0	31.1
77°	39.2	43.5	47.8	50.7	47.8	46.9	42.6	36.3	32.0	29.6	29.2
77.5°	36.8	41.1	45.4	47.8	45.4	44.5	40.2	33.9	30.1	27.7	26.8
78°	34.9	38.7	43.0	45.4	43.0	42.1	37.8	31.6	27.7	25.8	24.9
78.5°	32.5	36.3	40.6	43.5	40.6	40.2	35.9	29.6	25.8	23.9	23.0
79°	30.6	34.4	38.7	41.1	38.3	37.8	33.5	27.7	23.9	22.0	21.5
79.5°	28.2	32.0	36.3	38.7	36.3	35.9	31.1	25.8	22.5	20.1	19.6
80°	26.3	30.1	33.9	36.3	33.9	33.5	29.2	23.9	20.6	18.2	17.7
80.5°	24.4	27.7	32.0	34.4	32.0	31.1	27.3	22.0	18.6	16.7	16.3
81°	22.5	25.8	29.6	32.0	30.1	29.6	25.3	20.1	17.2	14.8	14.3
81.5°	20.6	23.9	27.7	30.1	27.7	27.3	23.4	18.2	15.3	13.4	12.9
82°	19.1	22.0	25.8	28.2	25.8	25.3	22.0	16.7	13.9	12.0	11.5
82.5°	17.2	20.1	23.9	26.3	24.4	23.9	20.1	14.8	12.4	10.5	10.0
83°	15.8	18.6	22.0	24.4	22.5	22.0	18.2	13.4	11.0	9.1	8.6
83.5°	13.9	16.7	20.6	22.5	20.6	20.1	16.7	12.0	9.6	7.7	7.7
84°	12.4	15.3	18.6	21.0	19.1	18.6	15.3	10.5	8.1	6.2	6.2
84.5°	11.0	13.4	17.2	19.1	17.2	16.7	13.9	9.1	6.7	4.8	5.3
85°	9.6	12.0	15.3	17.7	15.8	15.3	12.0	7.7	5.7	3.8	3.8
85.5°	8.1	10.5	13.9	16.3	14.3	13.9	10.5	6.2	4.3	2.9	2.9
86°	6.7	9.1	12.0	14.3	12.9	12.4	9.6	5.3	3.3	2.4	1.9
86.5°	5.3	7.7	10.5	12.9	11.5	11.0	8.1	4.3	2.4	1.4	1.0
87°	4.3	6.2	9.6	11.5	10.0	9.6	6.7	3.3	1.9	1.0	0.0
87.5°	3.3	4.8	8.1	10.0	8.6	8.1	5.7	2.4	1.0	0.5	0.0
88°	2.4	3.8	6.7	8.6	7.2	7.2	4.8	1.9	0.5	0.0	0.0
88.5°	1.4	2.9	5.7	7.2	6.2	5.7	3.3	1.0	0.0	0.0	0.0



TEST NUMBER: P776818  
CATALOG NUMBER: HCDJBL4050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.5	2.4	3.8	2.4	2.4	0.5	0.0	0.0	0.0	0.0



TEST NUMBER: P776818

CATALOG NUMBER: HCDJBLS4050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3148.6	3148.6	3148.6	3148.6	3148.6	3148.6
0.5°	3144.8	3147.2	3147.7	3149.6	3149.1	3147.2
1°	3142.9	3144.8	3145.3	3147.7	3147.7	3146.7
1.5°	3140.5	3141.9	3142.9	3145.3	3145.8	3145.8
2°	3138.1	3139.6	3140.0	3142.9	3144.3	3144.8
2.5°	3135.2	3136.7	3137.2	3140.5	3142.4	3143.9
3°	3132.9	3133.8	3134.3	3137.6	3140.0	3142.4
3.5°	3129.5	3130.5	3130.9	3135.2	3138.1	3140.5
4°	3126.6	3127.1	3128.1	3132.4	3136.2	3139.1
4.5°	3123.3	3123.8	3124.3	3129.5	3133.8	3137.6
5°	3119.5	3119.9	3120.4	3126.2	3131.4	3135.2
5.5°	3115.6	3116.1	3116.6	3123.3	3128.6	3133.3
6°	3111.3	3111.3	3112.3	3119.5	3125.7	3130.9
6.5°	3107.0	3107.5	3108.0	3115.6	3122.3	3128.6
7°	3102.3	3102.7	3103.7	3111.8	3119.5	3126.2
7.5°	3097.5	3098.0	3098.4	3108.0	3116.1	3123.3
8°	3092.7	3092.2	3093.7	3103.2	3112.3	3119.9
8.5°	3087.0	3087.0	3088.4	3098.9	3108.5	3116.6
9°	3081.7	3081.2	3082.7	3094.1	3104.6	3113.3
9.5°	3075.5	3076.0	3076.4	3088.4	3100.3	3109.4
10°	3069.3	3069.3	3070.7	3083.1	3095.6	3105.1
10.5°	3063.0	3062.6	3064.0	3077.4	3090.8	3100.8
11°	3055.9	3055.9	3057.3	3071.7	3085.5	3096.5
11.5°	3048.7	3048.7	3049.7	3065.4	3080.3	3091.3
12°	3041.1	3041.1	3042.5	3058.7	3074.5	3086.0
12.5°	3033.4	3032.9	3034.4	3051.6	3067.8	3080.7
13°	3025.3	3024.8	3025.8	3043.9	3061.6	3074.5
13.5°	3016.7	3016.2	3017.6	3036.3	3054.9	3068.8
14°	3007.6	3007.1	3008.5	3028.1	3047.7	3062.6
14.5°	2998.0	2998.0	2999.0	3019.5	3040.1	3055.9
15°	2988.5	2988.0	2989.4	3010.5	3032.0	3048.7
15.5°	2978.4	2977.5	2978.9	3000.4	3023.8	3041.1
16°	2967.4	2967.4	2967.9	2990.4	3014.8	3032.9
16.5°	2956.4	2956.4	2956.9	2979.8	3005.7	3024.8
17°	2944.5	2944.9	2945.4	2968.9	2995.6	3015.7
17.5°	2933.0	2933.0	2933.0	2957.9	2985.6	3007.1
18°	2920.1	2921.0	2920.6	2945.4	2974.6	2997.5
18.5°	2907.2	2907.6	2907.2	2933.0	2963.6	2987.5
19°	2893.8	2894.3	2893.8	2919.6	2951.6	2976.5
19.5°	2879.4	2881.4	2879.9	2906.7	2939.2	2965.5
20°	2865.1	2867.0	2864.6	2891.9	2926.3	2954.5
20.5°	2850.3	2851.7	2849.8	2878.0	2913.4	2942.6
21°	2834.5	2836.4	2834.0	2862.7	2900.0	2930.1

TEST NUMBER: P776818

CATALOG NUMBER: HCDJBLS4050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2784.8	2786.7	2783.8	2813.9	2855.5	2890.0
23°	2766.6	2769.5	2765.6	2797.2	2839.3	2875.6
23.5°	2747.9	2751.3	2747.9	2779.0	2823.0	2860.3
24°	2728.8	2732.6	2728.8	2760.9	2805.8	2845.0
24.5°	2709.7	2713.5	2709.2	2742.7	2788.6	2828.8
25°	2689.1	2693.4	2689.1	2722.6	2770.4	2812.5
25.5°	2668.6	2673.4	2668.6	2703.0	2752.2	2795.3
26°	2646.6	2652.3	2648.0	2682.4	2733.1	2777.1
26.5°	2625.5	2631.3	2626.0	2661.9	2714.0	2758.9
27°	2602.6	2608.8	2603.5	2640.4	2693.4	2740.3
27.5°	2579.6	2585.9	2581.1	2618.4	2672.9	2721.2
28°	2555.7	2562.4	2557.2	2595.4	2651.8	2701.6
28.5°	2530.4	2539.0	2533.7	2572.5	2630.3	2680.5
29°	2502.7	2513.7	2508.9	2549.0	2607.8	2659.5
29.5°	2474.0	2487.8	2483.0	2525.1	2584.4	2637.5
30°	2444.8	2460.6	2455.3	2500.7	2561.5	2615.5
30.5°	2413.7	2430.9	2426.1	2474.9	2537.6	2591.6
31°	2381.2	2400.3	2394.6	2447.2	2513.2	2568.2
31.5°	2346.8	2366.9	2363.0	2418.5	2487.8	2544.3
32°	2309.5	2331.5	2329.6	2387.4	2460.1	2519.4
32.5°	2270.3	2293.7	2294.7	2355.4	2431.9	2493.1
33°	2227.7	2252.6	2257.4	2321.0	2401.8	2465.8
33.5°	2178.0	2209.1	2215.8	2285.1	2370.2	2436.2
34°	2121.6	2158.4	2169.4	2245.9	2337.2	2406.5
34.5°	2058.4	2100.0	2112.5	2202.4	2301.4	2374.0
35°	1992.9	2034.1	2047.5	2152.2	2263.6	2339.6
35.5°	1925.0	1965.7	1977.6	2095.3	2221.5	2300.9
36°	1855.2	1900.2	1903.5	2033.6	2172.2	2261.2
36.5°	1788.3	1837.1	1828.5	1966.6	2116.8	2215.8
37°	1721.4	1771.1	1754.8	1897.8	2054.6	2163.2
37.5°	1653.5	1698.4	1684.1	1823.2	1986.2	2101.0
38°	1583.6	1622.9	1615.2	1746.2	1915.5	2034.1
38.5°	1508.1	1546.3	1542.0	1670.2	1842.8	1964.3
39°	1433.5	1473.2	1469.8	1593.7	1769.6	1894.4
39.5°	1357.0	1403.9	1396.7	1518.1	1693.1	1825.6
40°	1283.4	1336.0	1325.4	1439.2	1618.5	1756.7
40.5°	1208.3	1269.0	1254.2	1362.3	1543.5	1684.5
41°	1135.6	1199.2	1186.8	1286.7	1470.3	1612.8
41.5°	1064.8	1128.9	1119.8	1217.9	1399.6	1540.6
42°	994.1	1059.1	1052.4	1147.6	1327.8	1468.4
42.5°	923.8	992.6	987.9	1081.1	1252.8	1396.7
43°	856.4	929.5	925.7	1017.0	1182.5	1327.4
43.5°	794.7	865.9	864.5	955.8	1114.1	1258.5

TEST NUMBER: P776818

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	634.5	685.7	701.9	789.4	920.9	1052.4
45.5°	589.6	631.6	654.1	740.2	862.6	986.4
46°	548.4	583.3	609.6	693.8	806.6	921.4
46.5°	512.6	542.2	568.5	650.3	755.5	858.8
47°	481.0	506.8	530.7	609.2	705.3	797.6
47.5°	451.9	475.8	496.8	570.0	659.4	736.4
48°	429.4	449.0	466.2	533.6	615.9	682.3
48.5°	407.4	425.1	438.9	500.6	576.7	630.7
49°	384.9	403.1	413.1	469.5	539.4	583.8
49.5°	362.4	381.1	389.7	440.9	504.5	541.3
50°	340.4	360.5	367.7	413.1	472.9	506.8
50.5°	325.6	342.4	348.1	388.3	443.7	475.8
51°	311.3	327.1	331.4	365.3	416.9	447.6
51.5°	297.4	313.2	317.0	344.7	391.6	421.7
52°	283.5	299.3	303.1	328.5	368.7	399.3
52.5°	270.2	285.5	289.3	314.6	348.6	377.7
53°	257.2	271.6	275.4	300.3	331.8	357.2
53.5°	244.8	259.2	262.0	285.9	317.5	338.5
54°	233.8	246.7	249.6	272.1	302.7	324.2
54.5°	223.3	235.3	238.6	259.2	288.3	309.8
55°	213.3	224.7	227.6	246.7	274.5	295.0
55.5°	204.2	214.7	217.6	235.7	261.5	281.2
56°	195.1	205.1	207.5	224.7	249.1	267.8
56.5°	187.0	196.5	198.9	214.7	237.6	254.9
57°	179.3	187.9	190.3	205.6	226.6	242.4
57.5°	172.1	180.3	182.2	196.5	216.6	231.4
58°	164.5	172.6	175.0	188.4	207.0	220.4
58.5°	158.3	165.9	168.8	180.3	198.0	210.9
59°	151.6	159.7	162.1	172.6	189.3	201.3
59.5°	145.8	153.5	155.9	166.4	181.7	193.2
60°	140.1	147.3	149.7	160.2	174.0	184.6
60.5°	134.4	141.5	143.0	154.0	167.8	176.4
61°	129.1	135.8	137.2	147.7	161.6	169.7
61.5°	124.3	130.5	132.0	141.5	154.9	163.1
62°	119.5	125.8	127.2	136.3	148.7	156.4
62.5°	114.8	120.5	121.9	131.0	142.5	149.7
63°	110.0	115.7	117.1	125.8	136.8	143.0
63.5°	105.7	111.4	112.8	120.5	131.5	137.2
64°	101.8	107.1	108.1	116.2	125.8	131.5
64.5°	97.5	102.8	104.2	111.4	121.0	126.2
65°	93.7	99.0	99.9	107.1	116.2	121.0
65.5°	89.9	94.7	96.1	102.8	111.4	115.7
66°	86.5	90.8	91.8	99.0	107.1	111.4



TEST NUMBER: P776818

CATALOG NUMBER: HCDJBL54050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	76.0	80.3	81.3	87.5	94.2	98.0
68°	73.2	77.0	77.9	83.7	90.4	93.7
68.5°	69.8	73.6	74.6	80.3	86.5	89.9
69°	66.9	70.8	71.7	77.0	82.7	86.1
69.5°	64.1	67.4	68.4	73.6	79.4	82.7
70°	61.2	64.6	65.5	70.8	76.0	78.9
70.5°	58.3	61.7	62.6	67.4	72.7	75.5
71°	55.5	58.8	59.8	64.6	69.3	72.2
71.5°	53.1	56.4	56.9	61.7	66.5	68.9
72°	50.7	53.6	54.0	58.8	63.1	66.0
72.5°	47.8	51.2	51.6	55.9	60.2	63.1
73°	45.4	48.3	49.2	53.6	57.4	60.2
73.5°	43.5	45.9	46.4	50.7	54.5	57.4
74°	40.6	43.5	44.0	48.3	52.1	54.5
74.5°	38.7	41.1	41.6	45.4	49.2	51.6
75°	36.3	38.7	39.7	43.0	46.9	49.2
75.5°	34.4	36.8	37.3	40.6	44.0	46.4
76°	32.0	34.4	34.9	38.7	42.1	44.0
76.5°	30.1	32.5	33.0	36.3	39.7	41.6
77°	28.2	30.1	30.6	33.9	37.3	39.2
77.5°	25.8	28.2	28.7	32.0	34.9	36.8
78°	24.4	26.3	26.8	29.6	32.5	34.9
78.5°	22.5	24.4	24.9	27.7	30.6	32.5
79°	20.6	22.5	23.0	25.8	28.2	30.6
79.5°	19.1	21.0	21.0	23.9	26.3	28.2
80°	17.2	19.1	19.6	22.0	24.4	26.3
80.5°	15.8	17.7	17.7	20.1	22.5	24.4
81°	13.9	15.8	16.3	18.6	20.6	22.5
81.5°	12.4	14.3	14.8	16.7	18.6	20.6
82°	11.0	12.9	13.4	15.3	17.2	19.1
82.5°	9.6	11.5	12.0	13.9	15.3	17.2
83°	8.1	10.0	10.0	12.0	13.9	15.8
83.5°	7.2	8.6	8.6	10.5	12.0	13.9
84°	5.7	7.2	7.7	9.1	10.5	12.4
84.5°	4.3	5.7	6.2	8.1	9.1	11.0
85°	3.3	4.8	4.8	6.7	7.7	9.6
85.5°	1.9	3.3	3.8	5.3	6.2	8.1
86°	1.0	2.4	2.4	4.3	5.3	6.7
86.5°	0.0	1.0	1.0	2.9	4.3	5.3
87°	0.0	0.0	0.0	1.9	3.3	4.3
87.5°	0.0	0.0	0.0	1.0	2.4	3.3
88°	0.0	0.0	0.0	0.0	1.4	2.4
88.5°	0.0	0.0	0.0	0.0	1.0	1.4



TEST NUMBER: P776818  
CATALOG NUMBER: HCDJBS4050CSD-HCD8TRMW-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	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°	2917.2	2955.5	2994.2	3026.2	3029.6	3035.8	3014.3	2973.2	2933.9	2891.9	2851.7
22°	2903.3	2943.5	2982.7	3015.7	3018.6	3025.3	3002.3	2959.3	2920.1	2876.1	2835.9



44°	1189.6	1336.4	1469.8	1567.4	1531.5	1539.2	1410.1	1216.4	1078.2	930.5	808.1
44.5°	1119.8	1264.2	1393.3	1490.9	1455.0	1467.0	1331.2	1143.3	1009.9	867.4	752.1



66.5°	106.6	114.3	121.0	124.3	118.6	116.7	108.5	98.5	91.8	88.0	85.6
67°	102.3	109.5	115.7	119.5	113.8	112.4	104.2	94.7	88.0	84.2	81.8



89°	0.5	2.4	4.3	6.2	4.8	4.8	2.4	0.5	0.0	0.0	0.0
89.5°	0.0	1.4	3.3	4.8	3.8	3.3	1.4	0.0	0.0	0.0	0.0



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21.5°	2818.7	2820.1	2817.8	2846.4	2885.7	2917.2
22°	2801.5	2803.9	2801.0	2831.1	2870.4	2903.3



44°	738.3	804.3	807.1	896.5	1046.2	1189.6
44.5°	684.2	743.0	751.7	842.5	982.1	1119.8

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66.5°	82.7	87.5	88.5	94.7	102.3	106.6
67°	79.4	83.7	84.6	91.3	98.5	102.3

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89°	0.0	0.0	0.0	0.0	0.0	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)