

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: P776717

Luminaire Tested: HCDJBS4050CSD-HCD6TRMW-5000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776717
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-HCD6TRMW-5000lm-3500K
Description: 6 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

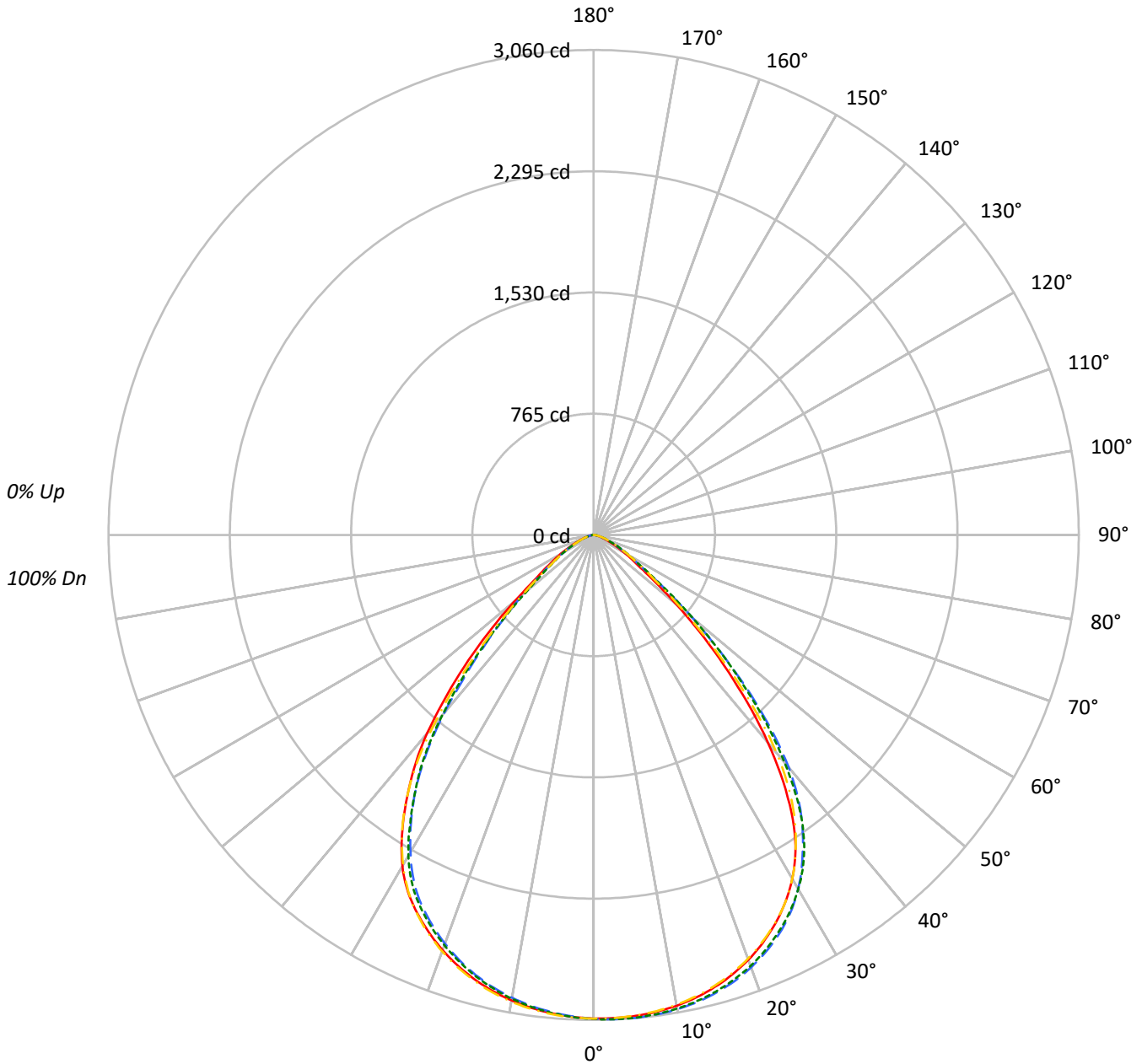
Lumens per Lamp: N/A
Luminaire Lumens: 5100.3 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.18
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 48
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



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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									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	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	109	106	104	101	102	100	98	99	97	95	95	94	92	90																			
2	105	99	94	89	102	97	92	88	94	90	86	90	87	85	88	85	83	81																			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72																			
4	91	82	75	70	89	81	74	69	78	73	69	76	72	68	74	70	67	65																			
5	85	75	68	62	83	74	67	62	72	66	62	70	65	61	69	64	60	59																			
6	80	69	62	56	78	68	61	56	66	60	56	65	59	55	63	59	55	53																			
7	75	63	56	51	73	63	56	51	61	55	51	60	54	50	59	54	50	48																			
8	70	59	51	46	69	58	51	46	57	51	46	56	50	46	55	49	46	44																			
9	66	54	47	43	65	54	47	42	53	47	42	52	46	42	51	46	42	40																			
10	62	51	44	39	61	50	44	39	49	43	39	48	43	39	48	42	39	37																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	167344	167344	167344	167344
5°	167642	168242	166734	166630
10°	167905	168924	166040	165406
15°	167623	169258	164757	163525
20°	166439	168779	162589	160716
25°	163782	167096	159275	156596
30°	158651	163367	152707	147959
35°	146515	154532	138056	131076
40°	122444	133922	117005	106371
45°	90149	103243	86420	75372
50°	57849	69601	55597	46506
55°	34579	41977	36338	31511
60°	24362	28550	26325	22915
65°	16643	20249	18536	16396
70°	11412	14666	12935	11877
75°	7900	10887	9193	8599
80°	5367	8334	6566	6093
85°	2390	6542	3837	3585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 106352 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	289.0	5.7
10°-20°	826.1	16.2
20°-30°	1226.6	24.0
30°-40°	1316.2	25.8
40°-50°	882.1	17.3
50°-60°	359.0	7.0
60°-70°	143.4	2.8
70°-80°	49.0	1.0
80°-90°	8.9	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°	2341.7	45.9
0°-40°	3657.8	71.7
0°-60°	4899.0	96.1
0°-90°	5100.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5100.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3053	3053	3053	3053	3053	
5°	3046	3057	3030	3028	3046	290
15°	2954	2982	2903	2881	2954	833
25°	2708	2762	2633	2589	2708	1244
35°	2189	2309	2063	1959	2189	1347
45°	1163	1332	1115	972	1163	897
55°	362	439	380	330	362	349
65°	128	156	143	126	128	132
75°	37	51	43	41	37	42
85°	4	10	6	6	4	6
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°	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6
0.5°	3051.2	3052.6	3054.5	3055.9	3056.3	3055.9	3052.1	3049.3	3049.7	3049.7	3051.2
1°	3052.1	3054.0	3055.9	3057.3	3057.8	3056.8	3052.1	3048.8	3048.3	3047.9	3048.8
1.5°	3052.1	3054.9	3057.3	3058.7	3058.2	3056.8	3052.1	3047.9	3047.4	3045.5	3046.4
2°	3051.6	3055.4	3058.2	3059.7	3058.7	3057.3	3051.6	3046.9	3045.5	3043.1	3043.6
2.5°	3051.2	3055.9	3058.7	3060.1	3059.2	3057.3	3051.2	3045.5	3043.6	3040.8	3040.8
3°	3050.7	3055.9	3059.2	3060.6	3059.2	3056.8	3050.2	3044.1	3041.7	3038.0	3038.0
3.5°	3050.2	3055.9	3059.7	3060.6	3059.2	3056.3	3048.8	3042.2	3038.9	3034.6	3034.2
4°	3049.3	3055.9	3059.2	3060.6	3058.7	3055.4	3047.4	3039.8	3036.1	3031.3	3030.9
4.5°	3047.9	3054.9	3059.2	3060.6	3058.2	3054.5	3046.0	3038.0	3033.2	3027.6	3027.1
5°	3046.4	3054.5	3058.7	3059.7	3057.3	3053.0	3043.6	3035.1	3029.9	3023.8	3022.9
5.5°	3045.0	3053.0	3057.8	3059.2	3056.3	3051.2	3041.7	3032.3	3026.6	3019.6	3018.1
6°	3042.7	3052.1	3056.8	3058.2	3054.9	3049.3	3039.4	3029.0	3022.9	3015.3	3013.9
6.5°	3040.3	3050.2	3055.4	3056.8	3053.0	3047.4	3036.5	3025.7	3019.1	3010.6	3008.7
7°	3038.0	3048.8	3054.0	3055.4	3051.6	3045.0	3033.2	3021.9	3014.8	3005.4	3003.5
7.5°	3035.1	3046.4	3052.1	3053.5	3049.3	3042.2	3030.4	3018.1	3010.1	3000.2	2997.9
8°	3031.8	3044.1	3050.2	3051.6	3046.9	3039.4	3026.6	3013.9	3005.4	2994.6	2992.2
8.5°	3028.5	3041.7	3047.9	3049.3	3044.6	3036.5	3022.9	3009.2	2999.7	2988.9	2986.1
9°	3024.3	3038.9	3045.5	3046.9	3041.3	3032.8	3019.1	3004.5	2994.6	2982.8	2979.0
9.5°	3020.5	3035.6	3042.2	3044.1	3038.0	3029.5	3014.4	2999.3	2988.9	2976.2	2972.4
10°	3016.3	3032.3	3039.4	3040.8	3034.6	3025.7	3009.6	2994.1	2982.8	2969.1	2965.8
10.5°	3011.5	3028.0	3035.6	3037.5	3030.4	3021.0	3004.9	2987.9	2976.6	2962.0	2958.2
11°	3006.3	3024.3	3031.8	3033.7	3026.6	3016.7	2999.7	2982.3	2969.5	2954.9	2950.2
11.5°	3001.2	3019.6	3027.6	3029.9	3021.9	3011.5	2994.1	2975.7	2962.5	2946.9	2942.2
12°	2995.0	3014.8	3023.3	3025.2	3017.7	3005.9	2987.9	2969.1	2954.9	2938.4	2933.7
12.5°	2988.9	3009.2	3018.6	3020.5	3012.5	3000.7	2981.8	2962.0	2947.4	2929.9	2924.7
13°	2982.8	3004.0	3013.9	3015.8	3006.8	2994.6	2975.2	2954.5	2938.9	2921.0	2915.8
13.5°	2976.2	2998.3	3008.2	3010.1	3001.2	2988.4	2968.1	2946.9	2930.4	2911.5	2905.9
14°	2969.1	2992.7	3002.6	3004.5	2995.5	2981.8	2961.1	2938.4	2921.9	2901.6	2895.5
14.5°	2961.5	2985.6	2996.4	2998.8	2988.9	2974.7	2953.0	2929.9	2912.5	2891.7	2885.1
15°	2953.5	2979.0	2989.8	2992.7	2982.3	2967.7	2945.0	2921.0	2903.0	2881.3	2874.3
15.5°	2945.5	2971.4	2982.8	2986.1	2974.7	2960.1	2937.0	2912.5	2892.7	2870.0	2862.9
16°	2936.5	2963.9	2975.7	2978.5	2967.2	2952.1	2928.5	2902.6	2882.8	2858.7	2851.1
16.5°	2927.6	2955.9	2968.1	2971.0	2959.6	2943.6	2919.5	2892.7	2871.9	2847.4	2839.4
17°	2917.7	2947.9	2960.6	2963.4	2951.2	2935.1	2910.1	2882.3	2860.6	2835.1	2827.1
17.5°	2908.2	2938.9	2952.1	2954.9	2942.7	2925.7	2900.2	2871.9	2849.3	2822.4	2813.9
18°	2897.8	2929.5	2943.1	2946.4	2933.2	2916.2	2889.8	2860.6	2837.5	2809.6	2800.7
18.5°	2887.0	2920.0	2934.2	2937.0	2923.8	2906.3	2879.0	2849.3	2825.7	2796.4	2787.0
19°	2876.1	2909.6	2924.3	2927.6	2913.9	2896.0	2868.1	2837.5	2812.9	2783.2	2772.8
19.5°	2864.8	2899.3	2914.4	2917.7	2904.0	2885.1	2856.8	2825.7	2800.2	2769.1	2758.2
20°	2853.0	2888.4	2904.0	2907.8	2893.1	2873.8	2845.0	2812.9	2787.0	2754.9	2743.6
20.5°	2840.8	2877.1	2892.7	2896.9	2882.3	2862.5	2832.7	2800.2	2773.3	2739.3	2728.5
21°	2827.6	2865.3	2881.8	2885.6	2870.5	2850.2	2820.0	2787.0	2759.2	2724.7	2712.5



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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°	2786.5	2827.1	2844.5	2849.7	2833.7	2812.0	2779.9	2744.5	2715.3	2676.1	2662.9
23°	2771.4	2813.4	2831.8	2836.5	2820.0	2797.8	2765.3	2729.9	2699.2	2659.2	2645.5
23.5°	2755.9	2799.3	2817.7	2822.8	2806.3	2783.2	2750.2	2714.8	2683.7	2642.2	2627.5
24°	2740.3	2784.6	2804.0	2809.2	2792.2	2768.6	2735.1	2698.8	2667.2	2624.7	2609.1
24.5°	2724.2	2769.1	2788.4	2794.5	2777.6	2754.0	2720.0	2682.7	2650.2	2606.8	2590.7
25°	2707.7	2753.5	2773.8	2779.9	2762.5	2738.4	2704.0	2666.2	2633.2	2588.4	2571.9
25.5°	2690.3	2737.9	2757.7	2763.9	2746.9	2722.4	2687.5	2649.7	2615.8	2569.0	2552.1
26°	2672.8	2721.4	2741.7	2748.3	2730.9	2706.3	2670.9	2632.3	2597.4	2548.8	2530.8
26.5°	2654.4	2704.0	2723.8	2731.8	2714.3	2688.9	2653.0	2614.3	2578.5	2526.6	2508.2
27°	2636.0	2685.6	2706.8	2714.3	2696.9	2671.4	2634.6	2595.0	2558.7	2503.5	2484.1
27.5°	2615.3	2667.2	2687.9	2696.4	2679.0	2653.5	2615.3	2574.7	2537.9	2479.9	2458.7
28°	2595.9	2647.4	2668.1	2677.5	2660.6	2634.6	2595.0	2553.5	2515.3	2454.9	2431.8
28.5°	2573.8	2626.6	2646.4	2657.7	2642.6	2615.3	2574.2	2531.8	2491.7	2428.9	2403.9
29°	2552.5	2604.9	2625.7	2637.0	2622.4	2595.5	2552.1	2508.2	2467.2	2400.2	2373.8
29.5°	2529.4	2582.7	2603.0	2615.3	2602.1	2574.2	2529.4	2484.1	2440.7	2371.4	2343.1
30°	2506.3	2559.6	2579.9	2593.1	2580.8	2553.0	2504.9	2458.2	2412.4	2341.7	2311.5
30.5°	2480.4	2535.1	2554.9	2570.0	2559.6	2529.4	2479.9	2430.8	2383.7	2310.5	2279.4
31°	2455.4	2509.6	2530.4	2545.9	2536.5	2505.8	2454.4	2403.0	2352.5	2277.5	2245.4
31.5°	2427.5	2483.7	2504.0	2520.0	2512.4	2481.3	2427.1	2373.8	2320.4	2243.6	2212.9
32°	2398.8	2455.8	2476.1	2494.5	2487.9	2454.9	2399.7	2342.1	2287.0	2209.1	2178.5
32.5°	2368.1	2427.1	2448.3	2466.7	2461.5	2428.5	2370.5	2310.1	2251.6	2172.8	2144.0
33°	2337.4	2397.3	2419.5	2438.9	2434.1	2400.6	2340.7	2276.6	2215.7	2136.0	2107.7
33.5°	2303.5	2367.6	2390.3	2409.6	2405.4	2370.9	2310.5	2242.6	2178.5	2097.8	2072.3
34°	2267.1	2336.0	2361.0	2379.4	2375.6	2341.7	2279.4	2206.8	2140.7	2057.7	2033.2
34.5°	2228.5	2304.9	2330.4	2349.2	2343.1	2308.2	2247.3	2169.0	2102.5	2018.1	1995.9
35°	2189.3	2270.4	2298.7	2316.7	2309.1	2275.6	2213.4	2131.8	2062.9	1977.5	1955.3
35.5°	2148.3	2236.5	2266.7	2284.1	2274.2	2241.2	2179.4	2095.4	2024.7	1936.0	1913.8
36°	2103.9	2200.6	2234.6	2250.6	2237.0	2206.8	2143.5	2055.8	1985.0	1893.5	1869.5
36.5°	2058.2	2164.8	2199.7	2216.7	2197.3	2168.5	2105.8	2018.1	1945.4	1850.1	1825.1
37°	2011.9	2125.6	2164.8	2180.8	2155.8	2129.4	2065.7	1978.0	1903.9	1806.3	1777.5
37.5°	1963.8	2085.5	2126.6	2142.6	2111.9	2087.4	2024.7	1939.8	1862.9	1762.9	1728.9
38°	1914.8	2042.6	2088.8	2103.9	2065.7	2045.9	1982.2	1897.8	1820.9	1714.7	1679.8
38.5°	1864.8	1999.2	2047.8	2062.4	2019.0	1999.2	1938.3	1857.7	1778.0	1666.2	1629.4
39°	1814.8	1953.0	2004.9	2020.0	1971.8	1952.0	1892.6	1813.3	1733.1	1616.2	1575.1
39.5°	1763.3	1903.4	1959.6	1974.7	1922.3	1902.0	1844.9	1769.5	1685.0	1567.1	1520.9
40°	1711.0	1851.1	1913.3	1926.6	1871.4	1849.7	1795.4	1720.4	1635.0	1512.4	1464.7
40.5°	1658.1	1797.3	1863.8	1875.6	1821.8	1794.5	1743.5	1671.3	1582.7	1459.1	1407.6
41°	1603.9	1742.1	1811.4	1822.3	1770.4	1739.3	1690.2	1618.5	1528.9	1406.7	1351.5
41.5°	1548.7	1686.4	1759.6	1767.1	1719.0	1683.6	1634.1	1566.1	1475.6	1354.3	1294.4
42°	1492.1	1629.8	1704.4	1710.0	1665.2	1626.5	1575.6	1509.1	1420.9	1299.6	1241.1
42.5°	1435.0	1575.1	1648.7	1653.4	1612.4	1568.0	1519.0	1453.9	1369.4	1248.2	1189.2
43°	1378.4	1519.9	1589.7	1597.8	1558.1	1512.8	1461.9	1396.8	1318.0	1195.4	1138.3
43.5°	1323.2	1465.2	1532.7	1541.1	1500.6	1454.3	1405.3	1340.7	1267.1	1144.9	1088.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1162.8	1298.7	1355.8	1371.8	1331.7	1282.6	1232.6	1177.9	1114.7	994.9	946.3
45.5°	1111.4	1243.0	1295.4	1316.1	1275.6	1227.0	1176.5	1124.6	1064.2	948.2	902.4
46°	1059.0	1188.3	1235.5	1260.9	1223.2	1171.8	1119.4	1071.8	1014.7	902.4	860.0
46.5°	1006.7	1134.0	1178.4	1206.2	1170.4	1118.9	1065.2	1018.9	965.2	859.0	818.0
47°	954.8	1078.4	1120.8	1150.1	1118.0	1067.1	1010.4	965.2	916.6	814.7	778.8
47.5°	905.7	1025.5	1065.2	1094.9	1064.7	1016.6	959.0	914.2	869.9	774.6	741.1
48°	857.1	972.7	1010.4	1041.6	1012.8	968.0	908.6	864.7	824.1	735.0	705.2
48.5°	809.5	921.3	959.0	988.7	962.3	921.3	861.4	816.6	779.8	697.2	669.4
49°	764.2	870.8	908.1	936.4	912.8	874.1	814.7	769.9	734.5	660.4	636.4
49.5°	721.3	820.8	859.0	886.9	863.7	827.9	770.8	725.5	692.0	625.5	604.3
50°	678.3	772.7	809.5	836.9	816.1	783.5	727.4	684.0	651.9	592.5	573.6
50.5°	637.8	726.0	763.7	788.3	769.4	740.1	687.8	644.4	612.3	561.4	544.4
51°	598.6	680.7	718.9	740.1	726.0	698.6	649.6	607.1	575.5	532.1	516.5
51.5°	561.4	637.3	676.0	696.3	683.1	659.0	614.2	572.7	541.5	503.8	489.7
52°	526.0	596.7	634.5	653.3	643.0	619.4	579.8	539.7	510.9	476.9	464.7
52.5°	492.5	559.0	595.3	611.8	602.4	582.1	547.7	509.5	482.1	451.9	441.1
53°	460.9	523.6	558.1	572.2	564.7	548.2	517.0	482.1	457.6	429.3	420.8
53.5°	432.6	490.6	522.7	536.4	528.8	515.6	488.7	456.6	434.9	409.5	400.0
54°	406.2	459.5	490.1	502.4	494.8	484.9	462.8	433.5	416.5	389.2	379.7
54.5°	383.0	431.6	458.1	470.8	463.2	456.6	438.2	414.7	398.1	369.4	359.5
55°	361.8	406.2	428.8	441.5	439.2	433.5	417.5	396.3	380.2	349.6	338.7
55.5°	342.0	383.0	402.4	415.1	415.6	410.9	397.2	377.4	361.8	332.6	322.2
56°	324.6	360.9	377.9	390.6	391.5	388.2	376.4	358.5	343.4	317.0	307.1
56.5°	309.0	340.6	356.2	368.0	367.5	365.6	355.7	339.6	327.9	302.4	293.9
57°	295.8	322.7	336.3	347.2	343.9	342.9	335.4	324.1	313.2	290.6	282.1
57.5°	283.0	307.1	318.4	328.3	326.4	326.0	318.9	309.0	299.5	278.3	270.3
58°	270.8	293.9	303.8	311.8	310.4	309.9	304.3	296.2	287.8	266.5	258.5
58.5°	258.5	281.2	291.1	298.1	297.7	297.2	292.0	284.5	275.5	254.7	246.2
59°	245.8	268.9	278.8	285.9	284.9	284.9	279.7	272.2	263.7	242.9	234.9
59.5°	234.0	256.2	266.1	273.6	272.7	272.7	267.9	259.9	251.4	231.6	224.1
60°	222.2	243.9	253.3	260.9	260.4	259.9	255.2	248.6	240.1	220.8	213.7
60.5°	210.4	231.6	241.1	248.6	247.7	247.7	243.4	236.8	229.3	210.4	203.3
61°	199.5	220.3	229.3	236.3	235.9	235.9	232.1	226.0	218.4	200.5	193.4
61.5°	189.2	209.0	217.9	224.5	223.6	224.5	220.8	215.1	207.6	191.1	184.4
62°	179.3	198.6	206.6	213.2	212.8	213.2	210.4	204.7	197.2	181.6	175.5
62.5°	169.4	188.7	196.2	202.4	201.9	202.8	200.0	194.8	187.3	172.7	167.0
63°	160.9	178.8	186.3	192.0	192.0	192.5	190.1	185.4	177.8	163.7	158.5
63.5°	152.8	168.4	176.9	182.6	182.1	183.0	180.7	176.4	168.4	155.2	151.0
64°	144.3	160.4	168.9	173.1	173.1	173.6	171.7	167.9	159.4	147.2	143.4
64.5°	136.3	152.4	160.4	165.1	164.6	165.1	163.2	159.0	151.0	139.6	136.3
65°	128.3	144.3	152.4	157.1	156.1	157.1	155.2	151.0	142.9	132.6	129.3
65.5°	120.8	136.3	144.3	149.1	148.1	149.1	147.2	143.4	135.4	125.5	123.1
66°	114.2	128.8	136.3	141.5	140.6	141.5	140.1	135.9	127.8	118.4	116.5



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	95.8	109.0	116.0	119.8	119.8	120.8	119.8	115.6	108.0	100.5	99.5
68°	90.6	103.3	109.9	113.7	113.7	114.6	113.7	109.4	101.9	94.8	94.3
68.5°	84.9	97.2	103.8	107.6	107.6	108.5	107.6	103.8	96.2	89.6	89.2
69°	80.2	92.0	98.6	101.9	101.9	102.8	102.4	98.1	91.0	84.4	84.4
69.5°	75.5	86.8	92.9	96.2	96.7	97.2	96.7	92.5	85.9	79.7	79.7
70°	71.2	81.6	88.2	91.5	91.5	92.5	91.5	87.7	80.7	75.5	75.5
70.5°	67.0	77.4	83.0	86.3	86.3	87.3	86.8	82.6	75.9	70.8	71.2
71°	62.7	72.6	78.8	81.6	82.1	82.6	82.1	78.3	71.7	67.0	67.5
71.5°	59.0	68.4	74.5	77.4	77.4	78.3	77.8	73.6	67.5	62.7	63.7
72°	55.2	64.6	70.3	73.1	73.1	74.1	73.6	69.3	63.7	59.0	59.9
72.5°	51.9	60.9	66.0	68.9	68.9	69.8	69.3	65.6	59.9	55.7	56.6
73°	48.6	57.1	62.3	65.1	65.1	66.0	65.6	61.3	56.1	52.4	53.3
73.5°	45.8	53.3	59.0	61.3	61.8	62.3	61.8	58.0	52.8	49.1	50.0
74°	42.9	50.0	55.2	58.0	58.0	59.0	58.0	54.2	49.5	45.8	47.2
74.5°	40.1	47.2	51.9	54.7	54.7	55.2	54.7	50.9	46.2	42.9	43.9
75°	37.3	44.3	49.1	51.4	51.4	52.4	51.4	48.1	43.4	40.6	41.0
75.5°	34.9	41.5	45.8	48.1	48.6	49.1	48.6	44.8	40.6	37.7	38.7
76°	32.5	38.7	42.9	45.3	45.8	46.2	45.3	42.0	38.2	35.4	36.3
76.5°	30.2	35.9	40.6	42.5	42.9	43.4	42.5	39.6	35.9	32.5	34.0
77°	27.8	33.5	37.7	40.1	40.1	40.6	40.1	37.3	33.0	30.2	31.6
77.5°	25.9	31.1	35.4	37.3	37.7	38.2	37.7	34.4	30.7	27.8	29.2
78°	24.1	28.8	33.0	34.9	35.4	35.9	35.4	32.1	28.3	25.9	26.9
78.5°	22.2	26.9	30.7	32.5	33.0	33.5	32.5	29.7	26.4	24.1	25.0
79°	20.3	25.0	28.3	30.7	30.7	31.1	30.2	27.4	24.5	22.2	23.1
79.5°	18.4	23.1	26.4	28.3	28.3	28.8	28.3	25.5	22.6	20.3	21.2
80°	17.0	21.2	24.5	26.4	26.4	26.9	25.9	23.1	20.8	18.4	19.3
80.5°	15.6	19.3	22.6	24.5	24.5	25.0	24.1	21.2	18.9	17.0	17.9
81°	14.2	17.5	20.8	22.6	22.6	23.1	22.2	19.8	17.5	15.1	16.0
81.5°	12.3	16.0	18.9	20.8	20.8	21.2	20.8	17.9	15.6	13.7	14.6
82°	11.3	14.6	17.5	19.3	19.3	19.3	18.9	16.0	14.2	12.3	13.2
82.5°	9.9	12.7	16.0	17.5	17.5	17.9	17.5	14.6	12.7	10.8	11.8
83°	8.5	11.3	14.6	16.0	16.0	16.5	15.6	13.2	11.3	9.4	10.4
83.5°	7.5	9.9	13.2	14.6	14.6	15.1	14.2	11.8	9.9	8.0	9.0
84°	6.1	9.0	11.3	13.2	13.2	13.7	12.7	10.4	8.5	6.6	8.0
84.5°	5.2	7.5	10.4	11.8	11.8	12.3	11.3	9.0	7.5	5.7	7.1
85°	3.8	6.1	9.0	10.4	10.4	10.8	9.9	7.5	6.1	4.2	5.7
85.5°	2.8	5.2	8.0	9.4	9.4	9.4	9.0	6.6	5.2	3.8	4.7
86°	2.4	4.2	6.6	8.0	8.0	8.5	7.5	5.7	3.8	2.8	3.8
86.5°	1.9	3.3	5.7	7.1	7.1	7.1	6.6	4.7	3.3	2.4	2.8
87°	1.4	2.8	4.7	5.7	5.7	6.1	5.7	3.8	2.4	1.9	1.9
87.5°	0.9	2.4	3.8	4.7	4.7	4.7	4.7	3.3	1.9	1.4	1.4
88°	0.5	1.4	2.8	3.8	3.8	3.8	3.3	2.4	1.4	0.5	0.5
88.5°	0.0	0.9	1.9	2.8	2.8	2.8	2.4	1.9	0.9	0.0	0.0



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3052.6	3052.6	3052.6	3052.6	3052.6	3052.6
0.5°	3052.1	3053.5	3054.0	3051.2	3049.7	3051.2
1°	3050.2	3051.6	3052.6	3050.7	3049.7	3052.1
1.5°	3047.9	3049.3	3051.2	3049.7	3049.3	3052.1
2°	3045.0	3047.4	3048.8	3048.3	3048.3	3051.6
2.5°	3042.2	3044.6	3046.9	3046.9	3047.4	3051.2
3°	3038.9	3041.7	3044.6	3045.0	3046.4	3050.7
3.5°	3035.6	3038.9	3041.7	3043.1	3045.0	3050.2
4°	3032.3	3035.1	3038.9	3040.8	3043.6	3049.3
4.5°	3028.0	3031.8	3035.6	3038.0	3041.7	3047.9
5°	3023.8	3028.0	3031.8	3035.1	3039.4	3046.4
5.5°	3019.1	3023.3	3028.0	3032.3	3037.0	3045.0
6°	3014.4	3019.1	3023.8	3028.5	3034.2	3042.7
6.5°	3009.6	3014.4	3019.6	3025.2	3031.3	3040.3
7°	3003.5	3008.7	3014.8	3021.0	3027.6	3038.0
7.5°	2998.3	3003.5	3010.1	3016.7	3024.3	3035.1
8°	2992.2	2997.4	3004.9	3012.0	3020.5	3031.8
8.5°	2986.1	2991.7	2999.3	3007.3	3016.7	3028.5
9°	2979.5	2985.1	2993.1	3002.1	3012.0	3024.3
9.5°	2972.4	2978.5	2987.0	2996.4	3007.3	3020.5
10°	2965.3	2971.4	2980.4	2990.8	3002.1	3016.3
10.5°	2957.8	2964.4	2973.8	2984.2	2996.9	3011.5
11°	2949.3	2956.3	2966.2	2977.6	2991.2	3006.3
11.5°	2941.2	2948.3	2958.7	2970.5	2985.1	3001.2
12°	2932.3	2939.8	2950.2	2963.4	2978.5	2995.0
12.5°	2923.8	2930.9	2942.2	2955.9	2971.9	2988.9
13°	2913.9	2921.9	2933.2	2947.9	2964.8	2982.8
13.5°	2904.0	2912.5	2924.3	2939.4	2957.3	2976.2
14°	2893.6	2902.6	2914.8	2930.4	2949.3	2969.1
14.5°	2883.2	2891.7	2904.9	2921.4	2941.2	2961.5
15°	2872.4	2881.3	2895.0	2912.0	2932.8	2953.5
15.5°	2861.1	2870.5	2884.2	2902.1	2923.3	2945.5
16°	2849.3	2858.7	2872.8	2891.7	2914.4	2936.5
16.5°	2837.5	2847.4	2861.5	2881.3	2904.5	2927.6
17°	2824.7	2835.1	2850.2	2870.0	2894.1	2917.7
17.5°	2812.5	2822.4	2837.9	2858.7	2883.2	2908.2
18°	2798.3	2809.6	2825.7	2847.4	2872.4	2897.8
18.5°	2785.1	2796.4	2812.9	2834.6	2860.6	2887.0
19°	2771.0	2782.7	2799.7	2821.9	2848.8	2876.1
19.5°	2756.3	2769.1	2786.0	2809.2	2837.0	2864.8
20°	2741.2	2754.9	2772.4	2796.0	2824.3	2853.0
20.5°	2726.1	2740.3	2758.2	2782.3	2811.0	2840.8
21°	2710.6	2725.2	2743.1	2767.6	2797.4	2827.6



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2661.0	2677.5	2696.4	2722.4	2754.0	2786.5
23°	2643.6	2660.6	2679.9	2706.3	2737.9	2771.4
23.5°	2625.7	2642.6	2663.4	2689.8	2721.9	2755.9
24°	2607.7	2625.2	2645.5	2672.4	2705.4	2740.3
24.5°	2589.3	2607.3	2628.0	2654.9	2688.4	2724.2
25°	2570.5	2588.9	2609.6	2637.0	2670.9	2707.7
25.5°	2550.7	2569.5	2591.2	2618.6	2653.0	2690.3
26°	2529.0	2549.7	2570.5	2598.8	2634.6	2672.8
26.5°	2506.8	2528.0	2549.2	2577.5	2615.8	2654.4
27°	2482.7	2505.8	2526.1	2555.8	2595.9	2636.0
27.5°	2457.2	2480.8	2502.5	2533.2	2574.7	2615.3
28°	2430.8	2455.8	2477.5	2508.2	2553.5	2595.9
28.5°	2403.5	2427.5	2451.1	2483.7	2530.4	2573.8
29°	2374.2	2399.2	2423.8	2458.2	2506.8	2552.5
29.5°	2344.5	2368.6	2395.0	2431.3	2482.3	2529.4
30°	2312.4	2337.4	2364.8	2402.5	2456.3	2506.3
30.5°	2279.4	2302.0	2333.2	2374.7	2429.9	2480.4
31°	2245.0	2268.6	2299.2	2344.5	2401.1	2455.4
31.5°	2210.5	2231.8	2265.3	2314.3	2371.9	2427.5
32°	2173.3	2193.6	2229.9	2281.8	2341.7	2398.8
32.5°	2135.5	2153.5	2193.6	2250.6	2310.1	2368.1
33°	2096.4	2117.1	2156.3	2217.6	2276.6	2337.4
33.5°	2055.8	2078.0	2117.6	2182.7	2243.1	2303.5
34°	2015.7	2038.4	2079.4	2145.0	2208.2	2267.1
34.5°	1974.7	1997.3	2039.8	2108.2	2170.9	2228.5
35°	1932.2	1958.6	2000.6	2069.0	2132.2	2189.3
35.5°	1889.8	1919.0	1961.5	2028.4	2092.6	2148.3
36°	1845.9	1878.4	1919.9	1983.2	2050.1	2103.9
36.5°	1802.0	1835.5	1878.9	1940.7	2005.8	2058.2
37°	1756.3	1791.6	1835.5	1894.5	1957.7	2011.9
37.5°	1709.6	1746.8	1789.7	1847.3	1909.6	1963.8
38°	1661.4	1699.2	1742.6	1797.3	1856.3	1914.8
38.5°	1610.5	1648.7	1693.5	1745.4	1804.4	1864.8
39°	1558.6	1595.9	1643.0	1690.7	1746.3	1814.8
39.5°	1505.8	1541.1	1588.3	1635.0	1690.2	1763.3
40°	1452.0	1486.4	1534.1	1577.5	1631.2	1711.0
40.5°	1399.2	1432.6	1477.0	1519.9	1574.2	1658.1
41°	1345.4	1379.8	1420.9	1461.4	1516.6	1603.9
41.5°	1291.6	1328.4	1364.7	1403.9	1458.6	1548.7
42°	1239.2	1277.4	1309.1	1346.3	1400.1	1492.1
42.5°	1186.9	1226.5	1253.4	1288.8	1344.4	1435.0
43°	1135.0	1176.5	1199.6	1230.3	1287.8	1378.4
43.5°	1083.1	1123.7	1145.8	1174.6	1232.2	1323.2



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	938.3	972.2	986.9	1011.4	1072.7	1162.8
45.5°	893.0	922.7	935.9	960.4	1023.7	1111.4
46°	849.1	875.5	885.4	911.4	975.5	1059.0
46.5°	804.3	829.3	836.4	864.7	927.9	1006.7
47°	763.3	784.0	789.7	817.5	881.2	954.8
47.5°	724.1	738.7	745.3	774.6	835.4	905.7
48°	687.3	695.8	702.4	732.6	790.6	857.1
48.5°	649.6	654.8	662.3	692.5	748.6	809.5
49°	615.6	616.1	624.1	654.8	706.2	764.2
49.5°	583.1	579.3	588.2	618.9	666.1	721.3
50°	552.4	545.3	554.8	584.0	626.5	678.3
50.5°	522.2	513.2	523.2	551.0	590.1	637.8
51°	495.8	485.4	493.9	520.8	554.8	598.6
51.5°	469.8	460.4	468.0	492.5	522.2	561.4
52°	445.3	437.8	443.9	465.6	492.0	526.0
52.5°	425.0	417.0	421.3	440.1	463.2	492.5
53°	405.2	397.7	401.0	416.5	436.4	460.9
53.5°	385.4	379.3	381.2	394.4	410.9	432.6
54°	365.1	362.3	363.2	373.6	387.8	406.2
54.5°	345.3	345.8	346.3	354.3	366.5	383.0
55°	328.3	329.7	329.7	336.3	347.2	361.8
55.5°	313.2	314.6	314.6	319.4	328.8	342.0
56°	299.5	301.0	301.0	304.7	312.3	324.6
56.5°	287.3	289.2	288.7	292.0	298.6	309.0
57°	275.5	276.9	276.9	279.7	286.3	295.8
57.5°	263.7	265.1	264.6	267.5	274.1	283.0
58°	251.9	253.3	252.8	255.2	261.8	270.8
58.5°	240.1	241.5	240.6	243.4	249.1	258.5
59°	229.3	230.2	229.7	231.6	236.8	245.8
59.5°	218.4	219.8	218.9	220.3	225.5	234.0
60°	207.6	209.0	208.0	209.9	214.6	222.2
60.5°	198.1	199.1	198.1	199.5	203.8	210.4
61°	188.7	189.6	188.2	189.6	193.4	199.5
61.5°	179.3	180.2	179.3	180.7	184.0	189.2
62°	170.8	171.7	170.3	171.7	175.0	179.3
62.5°	162.3	164.2	162.3	163.7	166.5	169.4
63°	154.3	156.6	154.7	156.1	158.5	160.9
63.5°	146.7	148.6	147.2	148.1	150.5	152.8
64°	139.6	141.0	139.6	140.6	142.5	144.3
64.5°	132.6	133.0	132.1	132.6	134.4	136.3
65°	126.0	126.4	125.5	126.0	127.4	128.3
65.5°	119.3	119.8	118.9	119.3	120.3	120.8
66°	113.2	113.7	112.7	113.2	113.7	114.2



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL54050CSD-HCD6TRMW-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	96.7	97.2	96.2	96.2	96.2	95.8
68°	91.5	92.0	91.0	91.5	90.6	90.6
68.5°	86.8	87.3	86.3	86.3	85.9	84.9
69°	82.1	82.6	81.6	82.1	80.7	80.2
69.5°	77.8	78.3	77.4	77.4	76.4	75.5
70°	73.6	74.1	73.1	73.1	71.7	71.2
70.5°	69.3	69.8	68.9	68.9	67.5	67.0
71°	65.6	66.0	65.1	65.1	63.7	62.7
71.5°	61.8	62.3	61.3	61.3	59.9	59.0
72°	58.5	58.5	58.0	58.0	56.1	55.2
72.5°	55.2	55.2	54.7	54.7	52.8	51.9
73°	51.9	51.9	51.4	51.4	49.5	48.6
73.5°	48.6	49.1	48.1	48.1	46.2	45.8
74°	45.8	45.8	45.3	45.3	43.4	42.9
74.5°	42.9	42.9	42.5	42.5	40.6	40.1
75°	40.6	40.6	40.1	39.6	38.2	37.3
75.5°	38.2	37.7	37.3	37.3	35.4	34.9
76°	35.9	35.4	34.9	34.4	33.0	32.5
76.5°	33.5	33.0	32.5	32.5	30.7	30.2
77°	31.1	31.1	30.7	30.2	28.3	27.8
77.5°	28.8	28.8	28.3	27.8	26.4	25.9
78°	26.4	26.9	26.4	25.9	24.1	24.1
78.5°	24.5	25.0	24.5	24.1	22.2	22.2
79°	22.6	23.1	22.6	22.2	20.8	20.3
79.5°	21.2	21.2	20.8	20.3	18.9	18.4
80°	19.3	19.3	19.3	18.4	17.0	17.0
80.5°	17.5	17.9	17.5	17.0	15.6	15.6
81°	16.0	16.5	16.0	15.6	14.2	14.2
81.5°	14.6	15.1	14.6	14.2	12.3	12.3
82°	13.2	13.7	13.2	12.7	10.8	11.3
82.5°	11.8	11.8	11.8	11.3	9.4	9.9
83°	10.4	10.8	10.4	9.9	8.0	8.5
83.5°	9.4	9.4	9.0	8.5	7.1	7.5
84°	8.0	8.0	8.0	7.5	6.1	6.1
84.5°	7.1	7.1	6.6	6.6	4.7	5.2
85°	5.7	5.7	5.7	5.7	4.2	3.8
85.5°	4.7	4.7	4.7	4.2	3.3	2.8
86°	3.8	3.8	3.8	3.3	2.8	2.4
86.5°	2.8	2.8	2.4	2.4	1.9	1.9
87°	1.4	1.9	1.4	1.4	1.4	1.4
87.5°	0.5	0.9	0.5	0.9	0.9	0.9
88°	0.0	0.0	0.0	0.0	0.5	0.5
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776717

CATALOG NUMBER: HCDJBL4050CSD-HCD6TRMW-5000lm-3500K

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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21.5°	2814.4	2853.0	2869.5	2874.3	2858.7	2837.9	2807.3	2773.3	2745.0	2708.7	2696.4
22°	2800.7	2840.3	2857.7	2862.0	2846.4	2825.2	2793.6	2759.2	2730.4	2692.6	2679.9



44°	1269.0	1410.0	1473.2	1485.0	1443.5	1397.3	1346.8	1285.0	1216.6	1092.5	1039.7
44.5°	1215.7	1353.4	1414.7	1428.4	1386.4	1340.2	1287.8	1231.7	1165.2	1043.9	993.0



66.5°	107.6	122.2	128.8	133.5	133.0	134.0	133.0	128.8	120.8	112.3	110.9
67°	101.4	115.1	122.2	126.4	126.4	127.4	126.0	122.2	114.2	106.1	105.2



89°	0.0	0.5	0.9	1.9	1.9	1.4	0.9	0.5	0.0	0.0
89.5°	0.0	0.0	0.5	0.9	0.9	0.9	0.5	0.0	0.0	0.0

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21.5°	2694.5	2709.6	2728.0	2753.0	2783.2	2814.4
22°	2678.0	2693.6	2712.0	2737.9	2769.1	2800.7



44°	1034.0	1072.2	1092.5	1119.9	1177.4	1269.0
44.5°	985.9	1022.2	1038.8	1065.6	1124.6	1215.7

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66.5°	107.6	108.0	107.1	107.6	107.6	107.6
67°	101.9	102.4	101.4	101.9	101.9	101.4

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

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(END OF REPORT)