

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: P776484

Luminaire Tested: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776484  
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: HCDJBS3040CSD-HCD82TRMW-4000lm-5000K  
Description: 8 INCH ROUND NARROW MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

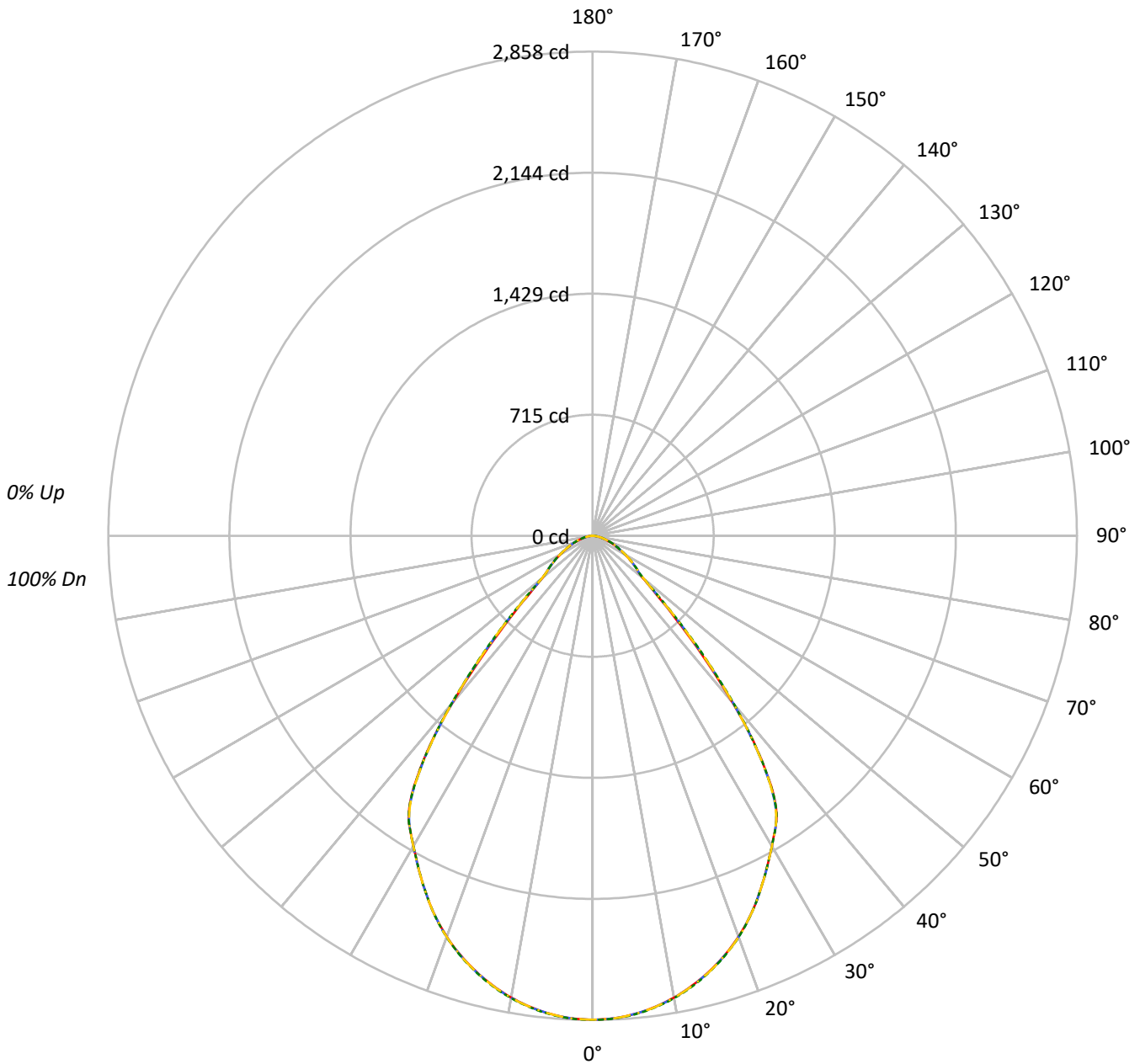
Lumens per Lamp: N/A  
Luminaire Lumens: 4307.4 lumens  
Efficiency: N/A  
Efficacy: 111.9 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.12  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
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									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	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	105	99	93	89	102	97	92	88	93	90	86	90	87	84	87	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	70	79	73	69	76	72	68	74	70	67	65																			
5	86	75	68	63	84	74	68	63	72	67	62	71	65	61	69	64	61	59																			
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54																			
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	59	55	51	49																			
8	71	60	52	47	69	59	52	47	58	52	47	57	51	47	55	50	47	45																			
9	67	55	48	44	66	55	48	44	54	48	43	53	47	43	52	47	43	42																			
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38																			

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

	0°	90°	180°	270°
0°	87207	87207	87207	87207
5°	86850	86924	86850	86924
10°	85799	85926	85799	85926
15°	84113	84243	84113	84243
20°	81809	81890	81809	81890
25°	78412	78429	78412	78429
30°	74575	74575	74575	74575
35°	69279	69144	69279	69144
40°	51205	51807	51205	51807
45°	30103	31571	30103	31571
50°	18424	18657	18424	18657
55°	15787	15814	15787	15814
60°	13464	13592	13464	13592
65°	11436	11703	11436	11703
70°	9712	10149	9712	10149
75°	8104	8741	8104	8741
80°	6470	7332	6470	7332
85°	4028	5605	4028	5605

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 31817 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	268.5	6.2
10°-20°	749.3	17.4
20°-30°	1070.0	24.8
30°-40°	1117.3	25.9
40°-50°	580.3	13.5
50°-60°	266.0	6.2
60°-70°	161.3	3.7
70°-80°	77.3	1.8
80°-90°	17.3	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°	2087.8	48.5
0°-40°	3205.1	74.4
0°-60°	4051.4	94.1
0°-90°	4307.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4307.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2856	2856	2856	2856	2856	
5°	2834	2836	2834	2836	2834	268
15°	2661	2665	2661	2665	2661	749
25°	2328	2328	2328	2328	2328	1070
35°	1859	1855	1859	1855	1859	1119
45°	697	731	697	731	697	567
55°	297	297	297	297	297	265
65°	158	162	158	162	158	159
75°	69	74	69	74	69	74
85°	12	16	12	16	12	15
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°	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4
0.5°	2856.0	2855.2	2856.0	2856.0	2857.6	2856.0	2856.0	2855.2	2856.0	2855.2	2856.0
1°	2855.6	2854.8	2855.6	2855.6	2856.8	2855.6	2855.6	2854.8	2855.6	2854.8	2855.6
1.5°	2854.3	2853.5	2854.3	2854.3	2856.0	2854.3	2854.3	2853.5	2854.3	2853.5	2854.3
2°	2852.7	2851.9	2852.7	2852.7	2854.3	2852.7	2852.7	2851.9	2852.7	2851.9	2852.7
2.5°	2850.7	2849.8	2850.7	2851.1	2852.3	2851.1	2850.7	2849.8	2850.7	2849.8	2850.7
3°	2848.2	2847.4	2848.2	2848.6	2850.3	2848.6	2848.2	2847.4	2848.2	2847.4	2848.2
3.5°	2845.3	2844.5	2845.3	2845.8	2847.4	2845.8	2845.3	2844.5	2845.3	2844.5	2845.3
4°	2841.7	2841.3	2842.1	2842.5	2844.1	2842.5	2842.1	2841.3	2841.7	2841.3	2842.1
4.5°	2838.0	2837.6	2838.4	2838.8	2840.4	2838.8	2838.4	2837.6	2838.0	2837.6	2838.4
5°	2833.9	2833.1	2833.9	2834.7	2836.3	2834.7	2833.9	2833.1	2833.9	2833.1	2833.9
5.5°	2829.0	2828.6	2829.4	2830.2	2831.8	2830.2	2829.4	2828.6	2829.0	2828.6	2829.4
6°	2824.1	2823.2	2824.5	2825.3	2826.5	2825.3	2824.5	2823.2	2824.1	2823.2	2824.5
6.5°	2818.3	2817.9	2819.2	2820.0	2821.2	2820.0	2819.2	2817.9	2818.3	2817.9	2819.2
7°	2812.6	2811.8	2813.0	2813.8	2815.5	2813.8	2813.0	2811.8	2812.6	2811.8	2813.0
7.5°	2806.1	2805.2	2806.9	2807.7	2809.3	2807.7	2806.9	2805.2	2806.1	2805.2	2806.9
8°	2799.1	2798.7	2799.9	2800.7	2802.8	2800.7	2799.9	2798.7	2799.1	2798.7	2799.9
8.5°	2791.7	2791.3	2793.0	2793.8	2795.4	2793.8	2793.0	2791.3	2791.7	2791.3	2793.0
9°	2784.4	2784.0	2785.2	2786.4	2788.1	2786.4	2785.2	2784.0	2784.4	2784.0	2785.2
9.5°	2775.8	2775.8	2777.0	2778.2	2779.9	2778.2	2777.0	2775.8	2775.8	2775.8	2777.0
10°	2767.6	2767.2	2768.8	2770.1	2771.7	2770.1	2768.8	2767.2	2767.6	2767.2	2768.8
10.5°	2758.6	2758.2	2759.8	2761.1	2763.1	2761.1	2759.8	2758.2	2758.6	2758.2	2759.8
11°	2749.2	2749.2	2750.4	2752.1	2753.7	2752.1	2750.4	2749.2	2749.2	2749.2	2750.4
11.5°	2739.8	2739.4	2741.0	2742.2	2743.9	2742.2	2741.0	2739.4	2739.8	2739.4	2741.0
12°	2729.5	2729.5	2730.8	2732.4	2734.1	2732.4	2730.8	2729.5	2729.5	2729.5	2730.8
12.5°	2718.9	2718.9	2720.5	2722.2	2723.4	2722.2	2720.5	2718.9	2718.9	2718.9	2720.5
13°	2708.3	2708.3	2709.9	2711.1	2712.8	2711.1	2709.9	2708.3	2708.3	2708.3	2709.9
13.5°	2696.8	2696.8	2698.5	2700.5	2701.3	2700.5	2698.5	2696.8	2696.8	2696.8	2698.5
14°	2685.8	2685.4	2687.0	2688.6	2689.9	2688.6	2687.0	2685.4	2685.8	2685.4	2687.0
14.5°	2673.5	2673.5	2675.1	2676.8	2678.0	2676.8	2675.1	2673.5	2673.5	2673.5	2675.1
15°	2661.2	2661.6	2663.3	2664.5	2665.3	2664.5	2663.3	2661.6	2661.2	2661.6	2663.3
15.5°	2648.5	2648.9	2650.6	2651.8	2652.6	2651.8	2650.6	2648.9	2648.5	2648.9	2650.6
16°	2635.9	2635.9	2637.5	2638.7	2639.5	2638.7	2637.5	2635.9	2635.9	2635.9	2637.5
16.5°	2622.8	2622.8	2624.4	2625.2	2626.4	2625.2	2624.4	2622.8	2622.8	2622.8	2624.4
17°	2608.8	2608.8	2610.5	2611.7	2612.5	2611.7	2610.5	2608.8	2608.8	2608.8	2610.5
17.5°	2594.5	2594.9	2596.6	2597.4	2598.2	2597.4	2596.6	2594.9	2594.5	2594.9	2596.6
18°	2580.2	2580.2	2581.8	2582.7	2583.5	2582.7	2581.8	2580.2	2580.2	2580.2	2581.8
18.5°	2565.5	2565.5	2567.1	2567.5	2568.3	2567.5	2567.1	2565.5	2565.5	2565.5	2567.1
19°	2549.9	2549.9	2551.6	2552.4	2552.8	2552.4	2551.6	2549.9	2549.9	2549.9	2551.6
19.5°	2534.0	2534.4	2535.6	2536.4	2536.8	2536.4	2535.6	2534.4	2534.0	2534.4	2535.6
20°	2518.0	2518.0	2519.2	2519.6	2520.5	2519.6	2519.2	2518.0	2518.0	2518.0	2519.2
20.5°	2501.2	2501.2	2502.5	2502.5	2503.3	2502.5	2502.5	2501.2	2501.2	2501.2	2502.5
21°	2484.0	2484.0	2485.3	2485.3	2485.7	2485.3	2485.3	2484.0	2484.0	2484.0	2485.3



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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°	2428.8	2428.8	2429.6	2429.2	2430.0	2429.2	2429.6	2428.8	2428.8	2428.8	2429.6
23°	2409.6	2409.6	2410.0	2410.0	2410.4	2410.0	2410.0	2409.6	2409.6	2409.6	2410.0
23.5°	2389.9	2389.9	2390.4	2389.9	2390.4	2389.9	2390.4	2389.9	2389.9	2389.9	2390.4
24°	2369.9	2369.5	2369.9	2369.5	2369.9	2369.5	2369.9	2369.5	2369.9	2369.5	2369.9
24.5°	2348.6	2348.6	2349.4	2349.0	2349.0	2349.0	2349.4	2348.6	2348.6	2348.6	2349.4
25°	2327.7	2327.7	2328.2	2328.2	2328.2	2328.2	2328.2	2327.7	2327.7	2327.7	2328.2
25.5°	2306.9	2306.5	2307.3	2306.9	2306.9	2306.9	2307.3	2306.5	2306.9	2306.5	2307.3
26°	2285.6	2285.2	2285.6	2286.0	2285.6	2286.0	2285.6	2285.2	2285.6	2285.2	2285.6
26.5°	2263.9	2264.3	2264.3	2264.3	2264.3	2264.3	2264.3	2264.3	2263.9	2264.3	2264.3
27°	2242.6	2242.6	2243.1	2243.1	2242.6	2243.1	2243.1	2242.6	2242.6	2242.6	2243.1
27.5°	2221.0	2221.0	2221.8	2221.8	2221.0	2221.8	2221.8	2221.0	2221.0	2221.0	2221.8
28°	2199.7	2199.7	2200.5	2200.1	2200.1	2200.1	2200.5	2199.7	2199.7	2199.7	2200.5
28.5°	2178.4	2178.4	2179.2	2178.8	2178.4	2178.8	2179.2	2178.4	2178.4	2178.4	2179.2
29°	2156.7	2157.5	2157.9	2157.5	2157.5	2157.5	2157.9	2157.5	2156.7	2157.5	2157.9
29.5°	2135.8	2136.3	2137.1	2137.1	2136.3	2137.1	2137.1	2136.3	2135.8	2136.3	2137.1
30°	2115.4	2115.8	2116.2	2116.2	2115.4	2116.2	2116.2	2115.8	2115.4	2115.8	2116.2
30.5°	2094.9	2095.8	2096.2	2095.8	2094.5	2095.8	2096.2	2095.8	2094.9	2095.8	2096.2
31°	2074.9	2075.3	2076.1	2075.7	2075.3	2075.7	2076.1	2075.3	2074.9	2075.3	2076.1
31.5°	2055.7	2055.7	2056.1	2055.7	2054.8	2055.7	2056.1	2055.7	2055.7	2055.7	2056.1
32°	2035.6	2035.6	2035.6	2035.2	2035.2	2035.2	2035.6	2035.6	2035.6	2035.6	2035.6
32.5°	2015.6	2013.9	2013.5	2013.1	2015.1	2013.1	2013.5	2013.9	2015.6	2013.9	2013.5
33°	1993.5	1989.4	1988.5	1987.3	1994.3	1987.3	1988.5	1989.4	1993.5	1989.4	1988.5
33.5°	1966.5	1960.3	1960.7	1958.3	1967.3	1958.3	1960.7	1960.3	1966.5	1960.3	1960.7
34°	1934.1	1927.2	1929.6	1924.7	1935.4	1924.7	1929.6	1927.2	1934.1	1927.2	1929.6
34.5°	1899.4	1889.5	1893.6	1888.7	1898.5	1888.7	1893.6	1889.5	1899.4	1889.5	1893.6
35°	1858.8	1849.8	1851.9	1848.6	1855.2	1848.6	1851.9	1849.8	1858.8	1849.8	1851.9
35.5°	1813.4	1808.5	1806.1	1803.2	1807.7	1803.2	1806.1	1808.5	1813.4	1808.5	1806.1
36°	1763.5	1764.3	1757.0	1753.7	1760.6	1753.7	1757.0	1764.3	1763.5	1764.3	1757.0
36.5°	1711.1	1714.8	1705.0	1701.3	1708.7	1701.3	1705.0	1714.8	1711.1	1714.8	1705.0
37°	1657.1	1660.4	1651.4	1646.5	1655.5	1646.5	1651.4	1660.4	1657.1	1660.4	1651.4
37.5°	1601.1	1601.1	1594.9	1590.4	1598.6	1590.4	1594.9	1601.1	1601.1	1601.1	1594.9
38°	1542.6	1538.5	1537.2	1533.6	1541.3	1533.6	1537.2	1538.5	1542.6	1538.5	1537.2
38.5°	1481.6	1474.2	1477.5	1474.6	1482.4	1474.6	1477.5	1474.2	1481.6	1474.2	1477.5
39°	1417.8	1410.8	1415.7	1415.3	1423.5	1415.3	1415.7	1410.8	1417.8	1410.8	1415.7
39.5°	1352.7	1347.8	1353.5	1355.2	1362.5	1355.2	1353.5	1347.8	1352.7	1347.8	1353.5
40°	1284.8	1286.0	1291.7	1296.2	1299.9	1296.2	1291.7	1286.0	1284.8	1286.0	1291.7
40.5°	1216.9	1223.0	1229.1	1236.9	1237.3	1236.9	1229.1	1223.0	1216.9	1223.0	1229.1
41°	1151.0	1161.2	1169.0	1178.0	1175.1	1178.0	1169.0	1161.2	1151.0	1161.2	1169.0
41.5°	1085.9	1097.8	1108.8	1119.5	1113.3	1119.5	1108.8	1097.8	1085.9	1097.8	1108.8
42°	1023.7	1036.0	1049.1	1060.6	1054.0	1060.6	1049.1	1036.0	1023.7	1036.0	1049.1
42.5°	963.6	975.5	989.8	1003.3	995.5	1003.3	989.8	975.5	963.6	975.5	989.8
43°	905.1	916.9	932.9	946.4	939.9	946.4	932.9	916.9	905.1	916.9	932.9
43.5°	849.4	860.1	877.3	892.0	885.0	892.0	877.3	860.1	849.4	860.1	877.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	697.2	704.6	723.4	736.9	731.2	736.9	723.4	704.6	697.2	704.6	723.4
45.5°	652.6	659.2	677.2	689.9	685.4	689.9	677.2	659.2	652.6	659.2	677.2
46°	610.5	617.8	633.4	645.3	641.6	645.3	633.4	617.8	610.5	617.8	633.4
46.5°	572.0	580.2	591.2	603.5	600.7	603.5	591.2	580.2	572.0	580.2	591.2
47°	536.0	545.4	553.2	565.1	562.2	565.1	553.2	545.4	536.0	545.4	553.2
47.5°	504.1	513.9	518.0	529.5	526.2	529.5	518.0	513.9	504.1	513.9	518.0
48°	475.5	484.0	486.5	498.0	493.5	498.0	486.5	484.0	475.5	484.0	486.5
48.5°	449.7	456.6	458.7	468.5	463.2	468.5	458.7	456.6	449.7	456.6	458.7
49°	426.4	431.7	433.7	441.9	437.0	441.9	433.7	431.7	426.4	431.7	433.7
49.5°	406.3	410.0	412.4	418.6	412.8	418.6	412.4	410.0	406.3	410.0	412.4
50°	387.9	391.2	394.0	398.1	392.8	398.1	394.0	391.2	387.9	391.2	394.0
50.5°	372.8	375.2	377.7	380.9	375.6	380.9	377.7	375.2	372.8	375.2	377.7
51°	360.1	362.5	363.7	366.2	361.7	366.2	363.7	362.5	360.1	362.5	363.7
51.5°	349.4	351.5	352.7	353.5	350.7	353.5	352.7	351.5	349.4	351.5	352.7
52°	341.2	342.1	342.9	343.3	341.7	343.3	342.9	342.1	341.2	342.1	342.9
52.5°	333.5	333.9	334.3	334.3	334.3	334.3	334.3	333.9	333.5	333.9	334.3
53°	326.1	326.5	326.5	326.5	326.9	326.5	326.5	326.5	326.1	326.5	326.5
53.5°	319.1	319.1	319.1	318.7	319.6	318.7	319.1	319.1	319.1	319.1	319.1
54°	311.8	311.8	311.8	311.4	312.2	311.4	311.8	311.8	311.8	311.8	311.8
54.5°	304.4	304.4	304.4	304.0	304.8	304.0	304.4	304.4	304.4	304.4	304.4
55°	296.6	296.6	296.6	296.6	297.1	296.6	296.6	296.6	296.6	296.6	296.6
55.5°	288.9	288.9	289.3	288.9	289.3	288.9	289.3	288.9	288.9	288.9	289.3
56°	281.1	281.1	281.5	281.5	281.5	281.5	281.5	281.1	281.1	281.1	281.5
56.5°	273.3	273.7	273.7	273.7	273.7	273.7	273.7	273.7	273.3	273.7	273.7
57°	265.5	266.0	266.0	266.0	266.0	266.0	266.0	266.0	265.5	266.0	266.0
57.5°	257.8	258.2	258.6	258.6	258.6	258.6	258.6	258.2	257.8	258.2	258.6
58°	250.0	250.8	250.8	251.2	251.2	251.2	250.8	250.8	250.0	250.8	250.8
58.5°	242.2	243.5	243.5	243.9	243.9	243.9	243.5	243.5	242.2	243.5	243.5
59°	234.9	236.1	236.5	236.5	236.5	236.5	236.5	236.1	234.9	236.1	236.5
59.5°	227.9	229.1	229.5	229.5	229.5	229.5	229.5	229.1	227.9	229.1	229.5
60°	220.5	222.2	222.6	223.0	222.6	223.0	222.6	222.2	220.5	222.2	222.6
60.5°	213.6	215.2	216.0	216.0	216.0	216.0	215.2	213.6	215.2	216.0	216.0
61°	207.0	208.7	209.5	209.5	209.5	209.5	209.5	208.7	207.0	208.7	209.5
61.5°	200.5	202.1	202.9	203.4	203.4	203.4	202.9	202.1	200.5	202.1	202.9
62°	193.9	195.6	196.8	196.8	196.8	196.8	196.8	195.6	193.9	195.6	196.8
62.5°	187.8	189.4	190.7	190.7	190.7	190.7	190.7	189.4	187.8	189.4	190.7
63°	181.3	183.3	184.9	184.9	184.9	184.9	184.9	183.3	181.3	183.3	184.9
63.5°	175.5	177.6	178.8	179.2	179.2	179.2	178.8	177.6	175.5	177.6	178.8
64°	169.8	171.4	173.1	173.5	173.5	173.5	173.1	171.4	169.8	171.4	173.1
64.5°	164.1	165.7	167.8	167.8	167.8	167.8	167.8	165.7	164.1	165.7	167.8
65°	158.3	160.0	162.0	162.4	162.0	162.4	162.0	160.0	158.3	160.0	162.0
65.5°	153.0	154.7	156.7	157.1	157.1	157.1	156.7	154.7	153.0	154.7	156.7
66°	147.7	149.3	151.4	151.8	151.8	151.8	151.4	149.3	147.7	149.3	151.4





TEST NUMBER: P776484

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	132.2	134.2	136.3	137.1	136.7	137.1	136.3	134.2	132.2	134.2	136.3
68°	127.3	129.3	131.8	132.2	132.2	132.2	131.8	129.3	127.3	129.3	131.8
68.5°	122.7	124.4	126.8	127.3	127.3	127.3	126.8	124.4	122.7	124.4	126.8
69°	117.8	119.9	122.3	122.7	122.7	122.7	122.3	119.9	117.8	119.9	122.3
69.5°	113.3	115.0	117.8	118.2	118.2	118.2	117.8	115.0	113.3	115.0	117.8
70°	108.8	110.5	113.3	113.7	113.7	113.7	113.3	110.5	108.8	110.5	113.3
70.5°	104.3	106.0	108.8	109.2	109.2	109.2	108.8	106.0	104.3	106.0	108.8
71°	100.2	101.9	104.3	105.2	105.2	105.2	104.3	101.9	100.2	101.9	104.3
71.5°	95.7	97.4	100.2	101.1	100.7	101.1	100.2	97.4	95.7	97.4	100.2
72°	91.7	93.3	96.2	97.0	96.6	97.0	96.2	93.3	91.7	93.3	96.2
72.5°	87.6	89.2	92.1	92.9	92.5	92.9	92.1	89.2	87.6	89.2	92.1
73°	83.5	85.1	88.0	88.8	88.8	88.8	88.0	85.1	83.5	85.1	88.0
73.5°	79.8	81.4	84.3	85.1	85.1	85.1	84.3	81.4	79.8	81.4	84.3
74°	76.1	77.7	80.2	81.4	81.0	81.4	80.2	77.7	76.1	77.7	80.2
74.5°	72.4	73.6	76.5	77.7	77.3	77.7	76.5	73.6	72.4	73.6	76.5
75°	68.7	70.0	72.8	74.1	74.1	74.1	72.8	70.0	68.7	70.0	72.8
75.5°	65.1	66.7	69.1	70.4	70.4	70.4	69.1	66.7	65.1	66.7	69.1
76°	61.8	63.0	65.9	67.1	66.7	67.1	65.9	63.0	61.8	63.0	65.9
76.5°	58.1	59.7	62.2	63.4	63.4	63.4	62.2	59.7	58.1	59.7	62.2
77°	54.8	56.5	58.9	60.1	60.1	60.1	58.9	56.5	54.8	56.5	58.9
77.5°	52.0	53.2	55.6	56.9	56.9	56.9	55.6	53.2	52.0	53.2	55.6
78°	48.7	49.9	52.4	54.0	53.6	54.0	52.4	49.9	48.7	49.9	52.4
78.5°	45.4	46.6	49.5	50.7	50.7	50.7	49.5	46.6	45.4	46.6	49.5
79°	42.6	43.8	46.2	47.9	47.5	47.9	46.2	43.8	42.6	43.8	46.2
79.5°	39.7	40.5	43.4	44.6	44.6	44.6	43.4	40.5	39.7	40.5	43.4
80°	36.8	37.6	40.5	41.7	41.7	41.7	40.5	37.6	36.8	37.6	40.5
80.5°	34.0	34.8	37.6	38.9	38.9	38.9	37.6	34.8	34.0	34.8	37.6
81°	31.1	31.9	34.8	36.0	36.0	36.0	34.8	31.9	31.1	31.9	34.8
81.5°	28.6	29.1	31.9	33.6	33.6	33.6	31.9	29.1	28.6	29.1	31.9
82°	25.8	26.6	29.1	30.7	30.7	30.7	29.1	26.6	25.8	26.6	29.1
82.5°	23.3	23.7	26.6	28.2	28.2	28.2	26.6	23.7	23.3	23.7	26.6
83°	20.9	21.3	24.1	25.8	25.4	25.8	24.1	21.3	20.9	21.3	24.1
83.5°	18.4	18.8	21.7	22.9	22.9	22.9	21.7	18.8	18.4	18.8	21.7
84°	16.0	16.4	19.2	20.5	20.5	20.5	19.2	16.4	16.0	16.4	19.2
84.5°	13.5	13.9	16.8	18.4	18.4	18.4	16.8	13.9	13.5	13.9	16.8
85°	11.5	11.9	14.7	16.0	16.0	16.0	14.7	11.9	11.5	11.9	14.7
85.5°	9.4	9.8	12.7	13.5	13.5	13.5	12.7	9.8	9.4	9.8	12.7
86°	7.4	8.2	10.6	11.5	11.5	11.5	10.6	8.2	7.4	8.2	10.6
86.5°	5.7	6.5	8.6	9.4	9.4	9.4	8.6	6.5	5.7	6.5	8.6
87°	4.5	4.9	6.5	7.4	7.4	7.4	6.5	4.9	4.5	4.9	6.5
87.5°	3.3	3.7	4.9	5.7	5.3	5.7	4.9	3.7	3.3	3.7	4.9
88°	2.0	2.5	3.7	4.1	3.3	4.1	3.7	2.5	2.0	2.5	3.7
88.5°	1.2	1.6	2.5	2.9	2.0	2.9	2.5	1.6	1.2	1.6	2.5



TEST NUMBER: P776484  
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-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	0.4	0.0	0.4	0.4	0.0	0.0	0.0	0.4



TEST NUMBER: P776484

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2856.4	2856.4	2856.4	2856.4	2856.4	2856.4
0.5°	2856.0	2857.6	2856.0	2856.0	2855.2	2856.0
1°	2855.6	2856.8	2855.6	2855.6	2854.8	2855.6
1.5°	2854.3	2856.0	2854.3	2854.3	2853.5	2854.3
2°	2852.7	2854.3	2852.7	2852.7	2851.9	2852.7
2.5°	2851.1	2852.3	2851.1	2850.7	2849.8	2850.7
3°	2848.6	2850.3	2848.6	2848.2	2847.4	2848.2
3.5°	2845.8	2847.4	2845.8	2845.3	2844.5	2845.3
4°	2842.5	2844.1	2842.5	2842.1	2841.3	2841.7
4.5°	2838.8	2840.4	2838.8	2838.4	2837.6	2838.0
5°	2834.7	2836.3	2834.7	2833.9	2833.1	2833.9
5.5°	2830.2	2831.8	2830.2	2829.4	2828.6	2829.0
6°	2825.3	2826.5	2825.3	2824.5	2823.2	2824.1
6.5°	2820.0	2821.2	2820.0	2819.2	2817.9	2818.3
7°	2813.8	2815.5	2813.8	2813.0	2811.8	2812.6
7.5°	2807.7	2809.3	2807.7	2806.9	2805.2	2806.1
8°	2800.7	2802.8	2800.7	2799.9	2798.7	2799.1
8.5°	2793.8	2795.4	2793.8	2793.0	2791.3	2791.7
9°	2786.4	2788.1	2786.4	2785.2	2784.0	2784.4
9.5°	2778.2	2779.9	2778.2	2777.0	2775.8	2775.8
10°	2770.1	2771.7	2770.1	2768.8	2767.2	2767.6
10.5°	2761.1	2763.1	2761.1	2759.8	2758.2	2758.6
11°	2752.1	2753.7	2752.1	2750.4	2749.2	2749.2
11.5°	2742.2	2743.9	2742.2	2741.0	2739.4	2739.8
12°	2732.4	2734.1	2732.4	2730.8	2729.5	2729.5
12.5°	2722.2	2723.4	2722.2	2720.5	2718.9	2718.9
13°	2711.1	2712.8	2711.1	2709.9	2708.3	2708.3
13.5°	2700.5	2701.3	2700.5	2698.5	2696.8	2696.8
14°	2688.6	2689.9	2688.6	2687.0	2685.4	2685.8
14.5°	2676.8	2678.0	2676.8	2675.1	2673.5	2673.5
15°	2664.5	2665.3	2664.5	2663.3	2661.6	2661.2
15.5°	2651.8	2652.6	2651.8	2650.6	2648.9	2648.5
16°	2638.7	2639.5	2638.7	2637.5	2635.9	2635.9
16.5°	2625.2	2626.4	2625.2	2624.4	2622.8	2622.8
17°	2611.7	2612.5	2611.7	2610.5	2608.8	2608.8
17.5°	2597.4	2598.2	2597.4	2596.6	2594.9	2594.5
18°	2582.7	2583.5	2582.7	2581.8	2580.2	2580.2
18.5°	2567.5	2568.3	2567.5	2567.1	2565.5	2565.5
19°	2552.4	2552.8	2552.4	2551.6	2549.9	2549.9
19.5°	2536.4	2536.8	2536.4	2535.6	2534.4	2534.0
20°	2519.6	2520.5	2519.6	2519.2	2518.0	2518.0
20.5°	2502.5	2503.3	2502.5	2502.5	2501.2	2501.2
21°	2485.3	2485.7	2485.3	2485.3	2484.0	2484.0



TEST NUMBER: P776484

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2429.2	2430.0	2429.2	2429.6	2428.8	2428.8
23°	2410.0	2410.4	2410.0	2410.0	2409.6	2409.6
23.5°	2389.9	2390.4	2389.9	2390.4	2389.9	2389.9
24°	2369.5	2369.9	2369.5	2369.9	2369.5	2369.9
24.5°	2349.0	2349.0	2349.0	2349.4	2348.6	2348.6
25°	2328.2	2328.2	2328.2	2328.2	2327.7	2327.7
25.5°	2306.9	2306.9	2306.9	2307.3	2306.5	2306.9
26°	2286.0	2285.6	2286.0	2285.6	2285.2	2285.6
26.5°	2264.3	2264.3	2264.3	2264.3	2264.3	2263.9
27°	2243.1	2242.6	2243.1	2243.1	2242.6	2242.6
27.5°	2221.8	2221.0	2221.8	2221.8	2221.0	2221.0
28°	2200.1	2200.1	2200.1	2200.5	2199.7	2199.7
28.5°	2178.8	2178.4	2178.8	2179.2	2178.4	2178.4
29°	2157.5	2157.5	2157.5	2157.9	2157.5	2156.7
29.5°	2137.1	2136.3	2137.1	2137.1	2136.3	2135.8
30°	2116.2	2115.4	2116.2	2116.2	2115.8	2115.4
30.5°	2095.8	2094.5	2095.8	2096.2	2095.8	2094.9
31°	2075.7	2075.3	2075.7	2076.1	2075.3	2074.9
31.5°	2055.7	2054.8	2055.7	2056.1	2055.7	2055.7
32°	2035.2	2035.2	2035.2	2035.6	2035.6	2035.6
32.5°	2013.1	2015.1	2013.1	2013.5	2013.9	2015.6
33°	1987.3	1994.3	1987.3	1988.5	1989.4	1993.5
33.5°	1958.3	1967.3	1958.3	1960.7	1960.3	1966.5
34°	1924.7	1935.4	1924.7	1929.6	1927.2	1934.1
34.5°	1888.7	1898.5	1888.7	1893.6	1889.5	1899.4
35°	1848.6	1855.2	1848.6	1851.9	1849.8	1858.8
35.5°	1803.2	1807.7	1803.2	1806.1	1808.5	1813.4
36°	1753.7	1760.6	1753.7	1757.0	1764.3	1763.5
36.5°	1701.3	1708.7	1701.3	1705.0	1714.8	1711.1
37°	1646.5	1655.5	1646.5	1651.4	1660.4	1657.1
37.5°	1590.4	1598.6	1590.4	1594.9	1601.1	1601.1
38°	1533.6	1541.3	1533.6	1537.2	1538.5	1542.6
38.5°	1474.6	1482.4	1474.6	1477.5	1474.2	1481.6
39°	1415.3	1423.5	1415.3	1415.7	1410.8	1417.8
39.5°	1355.2	1362.5	1355.2	1353.5	1347.8	1352.7
40°	1296.2	1299.9	1296.2	1291.7	1286.0	1284.8
40.5°	1236.9	1237.3	1236.9	1229.1	1223.0	1216.9
41°	1178.0	1175.1	1178.0	1169.0	1161.2	1151.0
41.5°	1119.5	1113.3	1119.5	1108.8	1097.8	1085.9
42°	1060.6	1054.0	1060.6	1049.1	1036.0	1023.7
42.5°	1003.3	995.5	1003.3	989.8	975.5	963.6
43°	946.4	939.9	946.4	932.9	916.9	905.1
43.5°	892.0	885.0	892.0	877.3	860.1	849.4



TEST NUMBER: P776484

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	736.9	731.2	736.9	723.4	704.6	697.2
45.5°	689.9	685.4	689.9	677.2	659.2	652.6
46°	645.3	641.6	645.3	633.4	617.8	610.5
46.5°	603.5	600.7	603.5	591.2	580.2	572.0
47°	565.1	562.2	565.1	553.2	545.4	536.0
47.5°	529.5	526.2	529.5	518.0	513.9	504.1
48°	498.0	493.5	498.0	486.5	484.0	475.5
48.5°	468.5	463.2	468.5	458.7	456.6	449.7
49°	441.9	437.0	441.9	433.7	431.7	426.4
49.5°	418.6	412.8	418.6	412.4	410.0	406.3
50°	398.1	392.8	398.1	394.0	391.2	387.9
50.5°	380.9	375.6	380.9	377.7	375.2	372.8
51°	366.2	361.7	366.2	363.7	362.5	360.1
51.5°	353.5	350.7	353.5	352.7	351.5	349.4
52°	343.3	341.7	343.3	342.9	342.1	341.2
52.5°	334.3	334.3	334.3	334.3	333.9	333.5
53°	326.5	326.9	326.5	326.5	326.5	326.1
53.5°	318.7	319.6	318.7	319.1	319.1	319.1
54°	311.4	312.2	311.4	311.8	311.8	311.8
54.5°	304.0	304.8	304.0	304.4	304.4	304.4
55°	296.6	297.1	296.6	296.6	296.6	296.6
55.5°	288.9	289.3	288.9	289.3	288.9	288.9
56°	281.5	281.5	281.5	281.5	281.1	281.1
56.5°	273.7	273.7	273.7	273.7	273.7	273.3
57°	266.0	266.0	266.0	266.0	266.0	265.5
57.5°	258.6	258.6	258.6	258.6	258.2	257.8
58°	251.2	251.2	251.2	250.8	250.8	250.0
58.5°	243.9	243.9	243.9	243.5	243.5	242.2
59°	236.5	236.5	236.5	236.5	236.1	234.9
59.5°	229.5	229.5	229.5	229.5	229.1	227.9
60°	223.0	222.6	223.0	222.6	222.2	220.5
60.5°	216.0	216.0	216.0	216.0	215.2	213.6
61°	209.5	209.5	209.5	209.5	208.7	207.0
61.5°	203.4	203.4	203.4	202.9	202.1	200.5
62°	196.8	196.8	196.8	196.8	195.6	193.9
62.5°	190.7	190.7	190.7	190.7	189.4	187.8
63°	184.9	184.9	184.9	184.9	183.3	181.3
63.5°	179.2	179.2	179.2	178.8	177.6	175.5
64°	173.5	173.5	173.5	173.1	171.4	169.8
64.5°	167.8	167.8	167.8	167.8	165.7	164.1
65°	162.4	162.0	162.4	162.0	160.0	158.3
65.5°	157.1	157.1	157.1	156.7	154.7	153.0
66°	151.8	151.8	151.8	151.4	149.3	147.7



TEST NUMBER: P776484

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	137.1	136.7	137.1	136.3	134.2	132.2
68°	132.2	132.2	132.2	131.8	129.3	127.3
68.5°	127.3	127.3	127.3	126.8	124.4	122.7
69°	122.7	122.7	122.7	122.3	119.9	117.8
69.5°	118.2	118.2	118.2	117.8	115.0	113.3
70°	113.7	113.7	113.7	113.3	110.5	108.8
70.5°	109.2	109.2	109.2	108.8	106.0	104.3
71°	105.2	105.2	105.2	104.3	101.9	100.2
71.5°	101.1	100.7	101.1	100.2	97.4	95.7
72°	97.0	96.6	97.0	96.2	93.3	91.7
72.5°	92.9	92.5	92.9	92.1	89.2	87.6
73°	88.8	88.8	88.8	88.0	85.1	83.5
73.5°	85.1	85.1	85.1	84.3	81.4	79.8
74°	81.4	81.0	81.4	80.2	77.7	76.1
74.5°	77.7	77.3	77.7	76.5	73.6	72.4
75°	74.1	74.1	74.1	72.8	70.0	68.7
75.5°	70.4	70.4	70.4	69.1	66.7	65.1
76°	67.1	66.7	67.1	65.9	63.0	61.8
76.5°	63.4	63.4	63.4	62.2	59.7	58.1
77°	60.1	60.1	60.1	58.9	56.5	54.8
77.5°	56.9	56.9	56.9	55.6	53.2	52.0
78°	54.0	53.6	54.0	52.4	49.9	48.7
78.5°	50.7	50.7	50.7	49.5	46.6	45.4
79°	47.9	47.5	47.9	46.2	43.8	42.6
79.5°	44.6	44.6	44.6	43.4	40.5	39.7
80°	41.7	41.7	41.7	40.5	37.6	36.8
80.5°	38.9	38.9	38.9	37.6	34.8	34.0
81°	36.0	36.0	36.0	34.8	31.9	31.1
81.5°	33.6	33.6	33.6	31.9	29.1	28.6
82°	30.7	30.7	30.7	29.1	26.6	25.8
82.5°	28.2	28.2	28.2	26.6	23.7	23.3
83°	25.8	25.4	25.8	24.1	21.3	20.9
83.5°	22.9	22.9	22.9	21.7	18.8	18.4
84°	20.5	20.5	20.5	19.2	16.4	16.0
84.5°	18.4	18.4	18.4	16.8	13.9	13.5
85°	16.0	16.0	16.0	14.7	11.9	11.5
85.5°	13.5	13.5	13.5	12.7	9.8	9.4
86°	11.5	11.5	11.5	10.6	8.2	7.4
86.5°	9.4	9.4	9.4	8.6	6.5	5.7
87°	7.4	7.4	7.4	6.5	4.9	4.5
87.5°	5.7	5.3	5.7	4.9	3.7	3.3
88°	4.1	3.3	4.1	3.7	2.5	2.0
88.5°	2.9	2.0	2.9	2.5	1.6	1.2



TEST NUMBER: P776484  
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	0.0	0.4	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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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2466.0	2466.5	2467.3	2467.3	2467.7	2467.3	2467.3	2466.5	2466.0	2466.5	2467.3
22°	2448.0	2448.0	2448.5	2448.5	2449.3	2448.5	2448.5	2448.0	2448.0	2448.0	2448.5



44°	796.2	805.2	824.1	838.0	831.8	838.0	824.1	805.2	796.2	805.2	824.1
44.5°	745.9	753.3	772.5	786.8	780.3	786.8	772.5	753.3	745.9	753.3	772.5



66.5°	142.0	144.0	146.1	146.5	146.9	146.5	146.1	144.0	142.0	144.0	146.1
67°	137.1	138.7	141.2	142.0	142.0	142.0	141.2	138.7	137.1	138.7	141.2



89°	0.4	0.8	1.2	2.0	1.2	2.0	1.2	0.8	0.4	0.8	1.2
89.5°	0.0	0.4	0.8	1.2	0.4	1.2	0.8	0.4	0.0	0.4	0.8



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21.5°	2467.3	2467.7	2467.3	2467.3	2466.5	2466.0
22°	2448.5	2449.3	2448.5	2448.5	2448.0	2448.0



44°	838.0	831.8	838.0	824.1	805.2	796.2
44.5°	786.8	780.3	786.8	772.5	753.3	745.9

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66.5°	146.5	146.9	146.5	146.1	144.0	142.0
67°	142.0	142.0	142.0	141.2	138.7	137.1

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89°	2.0	1.2	2.0	1.2	0.8	0.4
89.5°	1.2	0.4	1.2	0.8	0.4	0.0

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Scaled Data Report



(END OF REPORT)