

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: P776417

Luminaire Tested: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776417  
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: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K  
Description: 6 INCH SQUARE MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3927.7 lumens  
Efficiency: N/A  
Efficacy: 102.0 lumens/watt  
Spacing Criteria (0/90/45): 1.02 / 1.02 / 1.06  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

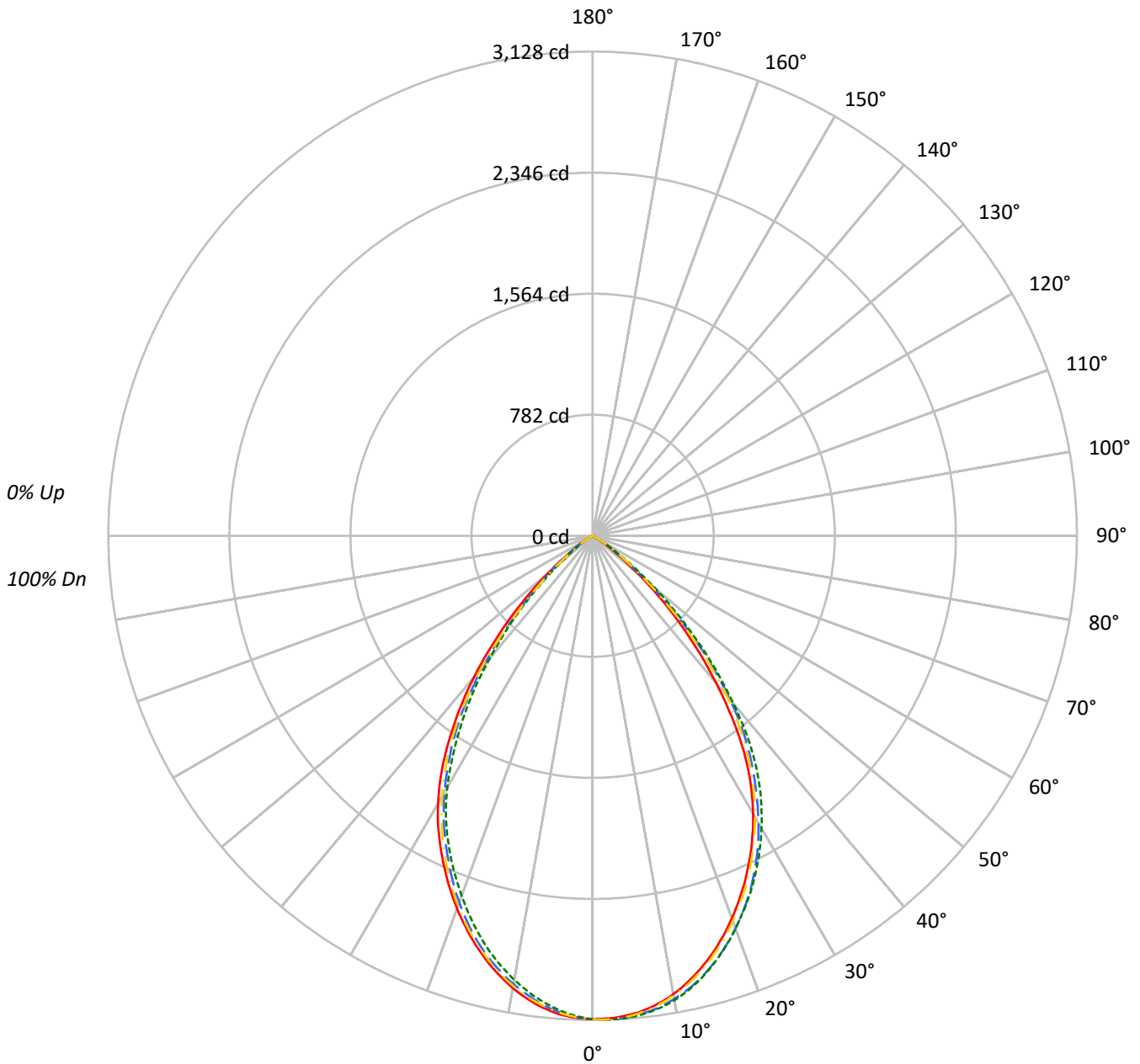
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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					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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92					92			
2	106	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84					84			
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77					77			
4	94	86	80	75	92	85	79	74	82	77	73	80	76	73	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	76	71	67	75	70	66	73	69	66	64					64			
6	83	73	67	62	82	73	66	62	71	65	61	69	64	61	68	64	60	59					59			
7	78	68	61	57	77	67	61	56	66	60	56	65	60	56	64	59	55	54					54			
8	74	63	57	52	73	63	56	52	62	56	52	61	55	51	59	55	51	50					50			
9	70	59	53	48	69	59	52	48	58	52	48	57	51	48	56	51	47	46					46			
10	66	55	49	45	65	55	49	45	54	48	44	53	48	44	52	48	44	43					43			

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

	0°	90°	180°	270°
0°	171214	171214	171214	171214
5°	170454	171489	169684	167967
10°	167376	169586	165149	162194
15°	161499	164780	158253	154291
20°	153407	157520	149434	144341
25°	143488	148872	138891	133157
30°	131223	138047	126412	118892
35°	113943	123794	108288	98484
40°	88824	101197	85367	73981
45°	60906	73457	58572	47555
50°	33543	44399	32084	23351
55°	12826	19498	13868	9949
60°	1688	4989	3344	1316
65°	221	402	311	221
70°	48	112	112	112
75°	64	64	64	64
80°	0	0	0	0
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 73457 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	291.6	7.4
10°-20°	790.4	20.1
20°-30°	1069.2	27.2
30°-40°	1026.5	26.1
40°-50°	597.8	15.2
50°-60°	147.1	3.7
60°-70°	4.7	0.1
70°-80°	0.2	0.0
80°-90°	0.0	0.0
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°	2151.2	54.8
0°-40°	3177.8	80.9
0°-60°	3922.8	99.9
0°-90°	3927.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3927.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3123	3123	3123	3123	3123	
5°	3098	3116	3084	3052	3098	293
15°	2846	2903	2788	2719	2846	798
25°	2372	2461	2296	2201	2372	1087
35°	1703	1850	1618	1472	1703	1048
45°	786	948	756	613	786	607
55°	134	204	145	104	134	138
65°	2	3	2	2	2	3
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	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°	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2
0.5°	3122.5	3122.8	3125.2	3127.3	3124.2	3125.6	3126.3	3124.9	3121.8	3120.4	3120.8
1°	3121.8	3123.2	3126.6	3129.0	3126.3	3127.0	3127.0	3124.6	3120.4	3117.7	3118.1
1.5°	3120.8	3123.2	3127.0	3130.0	3127.3	3128.0	3126.6	3123.5	3119.1	3115.0	3114.3
2°	3119.1	3122.8	3127.0	3130.0	3128.0	3128.0	3126.3	3121.8	3115.7	3111.5	3109.8
2.5°	3119.1	3121.5	3125.9	3129.3	3127.3	3127.0	3124.6	3119.4	3112.9	3107.1	3104.4
3°	3113.9	3119.4	3124.9	3128.3	3126.6	3125.9	3122.2	3115.7	3108.1	3102.0	3098.2
3.5°	3110.9	3117.0	3122.8	3126.6	3124.9	3123.2	3119.1	3111.9	3103.3	3096.1	3092.4
4°	3107.1	3114.3	3120.1	3124.2	3122.5	3120.8	3115.7	3106.8	3097.9	3090.0	3084.2
4.5°	3102.3	3110.9	3116.7	3121.1	3119.8	3117.4	3110.9	3101.3	3091.7	3082.1	3076.3
5°	3097.5	3106.4	3112.9	3117.7	3116.3	3113.3	3105.7	3095.1	3083.5	3073.9	3067.4
5.5°	3093.1	3101.3	3108.8	3113.3	3112.6	3108.8	3099.6	3087.9	3074.9	3065.0	3057.5
6°	3085.2	3095.5	3103.7	3108.5	3108.1	3103.3	3092.7	3079.4	3066.0	3055.4	3047.2
6.5°	3078.3	3089.6	3097.9	3103.3	3102.6	3097.2	3086.2	3070.1	3056.1	3045.1	3035.6
7°	3070.5	3082.5	3091.0	3097.5	3096.8	3091.0	3077.7	3060.9	3045.8	3033.8	3024.6
7.5°	3061.6	3074.6	3083.8	3090.3	3090.0	3083.8	3069.1	3049.9	3033.8	3021.5	3011.6
8°	3052.0	3066.0	3076.3	3082.5	3082.8	3076.3	3059.9	3039.0	3021.9	3008.9	2998.9
8.5°	3042.1	3056.8	3067.7	3074.2	3074.9	3067.4	3049.6	3027.3	3009.2	2995.9	2984.9
9°	3031.1	3046.5	3058.8	3065.3	3066.0	3058.1	3039.3	3015.0	2995.5	2982.2	2971.5
9.5°	3019.1	3036.2	3048.6	3055.8	3056.8	3048.6	3027.3	3001.7	2982.2	2967.4	2956.5
10°	3006.8	3024.9	3038.6	3045.5	3046.5	3037.6	3015.4	2988.3	2966.8	2952.7	2941.1
10.5°	2993.5	3012.6	3027.3	3034.5	3035.2	3026.3	3002.7	2973.6	2951.7	2937.3	2925.3
11°	2979.8	3000.3	3016.4	3022.9	3023.6	3013.6	2989.3	2958.9	2935.6	2921.2	2909.2
11.5°	2965.4	2987.0	3003.4	3010.2	3010.9	3001.0	2975.7	2943.5	2918.5	2904.8	2892.5
12°	2949.3	2972.9	2991.1	2996.9	2997.6	2987.0	2960.6	2927.4	2901.7	2887.7	2875.0
12.5°	2933.6	2958.2	2976.7	2983.5	2983.5	2972.6	2945.2	2911.0	2884.3	2869.9	2857.6
13°	2917.5	2943.5	2963.0	2969.8	2969.8	2957.9	2930.1	2894.2	2866.5	2851.7	2839.4
13.5°	2900.0	2927.0	2947.9	2954.1	2953.4	2941.4	2913.0	2876.4	2847.3	2833.3	2820.6
14°	2882.9	2911.0	2932.2	2938.7	2937.3	2925.3	2896.2	2858.2	2828.5	2813.7	2801.1
14.5°	2864.4	2893.5	2915.8	2922.6	2919.9	2907.5	2878.8	2839.1	2809.0	2793.2	2781.2
15°	2845.6	2876.4	2898.6	2905.8	2903.4	2890.1	2860.0	2819.9	2788.4	2772.3	2760.7
15.5°	2826.1	2857.9	2881.2	2889.1	2884.9	2871.9	2840.8	2800.1	2767.5	2752.1	2739.5
16°	2806.2	2838.7	2863.0	2870.2	2866.8	2853.1	2822.0	2779.9	2746.7	2730.6	2717.2
16.5°	2785.7	2819.6	2843.9	2851.7	2847.6	2833.3	2801.8	2759.0	2725.1	2708.0	2694.6
17°	2764.8	2799.7	2825.0	2832.9	2827.4	2813.4	2781.6	2737.8	2702.5	2684.7	2671.7
17.5°	2742.9	2779.5	2805.2	2813.7	2807.6	2792.9	2760.3	2715.2	2680.2	2661.4	2647.4
18°	2721.3	2758.3	2785.0	2793.2	2786.4	2772.0	2739.5	2693.3	2656.3	2637.5	2622.7
18.5°	2699.1	2736.7	2763.8	2772.7	2765.1	2750.8	2717.2	2670.0	2633.0	2612.8	2598.4
19°	2676.1	2714.8	2743.2	2751.8	2743.9	2729.2	2694.6	2646.7	2609.4	2588.8	2572.1
19.5°	2652.9	2692.2	2721.0	2730.2	2722.3	2706.6	2671.7	2622.7	2586.1	2562.8	2545.7
20°	2629.6	2669.6	2699.4	2708.3	2700.1	2683.3	2649.1	2599.5	2561.5	2537.2	2519.4
20.5°	2605.3	2645.7	2676.8	2684.7	2676.5	2660.7	2625.1	2574.8	2536.5	2511.1	2493.0
21°	2581.0	2621.7	2653.9	2662.1	2653.5	2637.1	2600.5	2550.5	2511.8	2485.5	2466.6

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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°	2506.0	2547.1	2581.7	2589.5	2585.1	2563.5	2525.9	2477.3	2433.8	2404.7	2380.7
23°	2480.3	2521.1	2556.3	2564.5	2560.8	2537.5	2501.2	2450.9	2406.1	2376.6	2352.0
23.5°	2454.3	2494.4	2530.7	2538.9	2536.5	2511.5	2476.2	2424.5	2379.0	2347.9	2322.2
24°	2427.3	2468.0	2503.6	2512.5	2512.2	2485.5	2449.5	2397.8	2351.3	2319.5	2292.8
24.5°	2399.9	2441.0	2476.9	2486.2	2487.9	2463.6	2421.8	2370.8	2324.6	2290.7	2262.6
25°	2372.2	2413.6	2449.5	2459.1	2461.2	2436.5	2393.7	2343.8	2296.2	2261.9	2233.5
25.5°	2344.4	2384.5	2421.8	2431.0	2434.5	2408.8	2365.7	2315.7	2268.1	2232.5	2203.4
26°	2316.7	2356.8	2393.1	2403.7	2408.1	2381.8	2337.3	2288.3	2240.0	2203.4	2173.6
26.5°	2287.3	2328.4	2363.6	2375.3	2381.4	2353.0	2307.8	2259.9	2211.6	2174.0	2143.2
27°	2258.5	2298.2	2334.5	2346.5	2354.4	2325.3	2279.1	2231.8	2181.8	2144.5	2113.0
27.5°	2228.4	2267.8	2304.1	2317.4	2326.0	2296.2	2250.0	2203.1	2153.4	2114.4	2081.9
28°	2198.6	2237.3	2272.6	2287.3	2297.5	2267.4	2220.5	2173.6	2123.7	2082.6	2049.7
28.5°	2168.2	2206.5	2241.1	2257.2	2269.5	2238.0	2190.7	2144.5	2093.9	2050.4	2016.5
29°	2137.0	2175.0	2208.9	2226.3	2240.7	2208.5	2159.9	2114.1	2062.7	2018.6	1983.3
29.5°	2105.2	2142.1	2175.7	2195.2	2210.6	2179.1	2129.1	2082.2	2030.2	1985.4	1948.1
30°	2073.0	2108.9	2142.5	2163.4	2180.8	2149.0	2097.6	2050.4	1997.0	1951.8	1913.1
30.5°	2040.1	2075.4	2108.9	2129.8	2150.4	2117.8	2065.8	2017.2	1964.1	1916.6	1877.5
31°	2006.6	2041.2	2073.3	2097.6	2120.6	2086.7	2032.9	1984.0	1928.9	1881.3	1841.3
31.5°	1972.0	2006.2	2039.5	2063.8	2088.4	2055.2	1999.7	1949.8	1892.9	1845.7	1804.6
32°	1936.1	1970.0	2003.5	2029.2	2056.6	2023.0	1966.5	1914.9	1856.0	1809.1	1767.0
32.5°	1900.8	1935.4	1967.9	1993.9	2024.4	1989.8	1932.3	1879.3	1818.7	1771.8	1730.0
33°	1863.8	1898.8	1932.7	1959.4	1991.5	1956.3	1897.7	1841.9	1780.3	1733.1	1693.0
33.5°	1825.9	1862.1	1898.1	1924.1	1957.0	1922.4	1862.8	1804.3	1741.0	1694.4	1655.7
34°	1785.8	1824.5	1861.5	1888.5	1923.1	1887.5	1827.2	1766.3	1701.3	1656.1	1617.7
34.5°	1745.1	1787.5	1824.8	1852.6	1886.1	1850.8	1792.0	1727.3	1659.2	1615.0	1578.7
35°	1702.6	1748.8	1787.5	1814.9	1849.8	1814.6	1755.7	1687.2	1618.1	1573.9	1540.0
35.5°	1660.2	1710.2	1751.9	1777.6	1811.5	1777.9	1719.4	1647.5	1577.3	1533.2	1500.3
36°	1614.7	1671.1	1712.9	1740.3	1773.1	1740.6	1682.1	1607.5	1536.3	1491.8	1459.2
36.5°	1569.1	1629.7	1676.3	1703.0	1732.1	1701.9	1643.4	1566.7	1494.5	1449.7	1416.8
37°	1522.2	1587.6	1637.2	1663.6	1690.3	1661.9	1603.7	1526.3	1451.4	1407.2	1372.3
37.5°	1475.7	1543.8	1597.2	1623.2	1647.2	1620.8	1563.6	1484.6	1410.6	1364.1	1328.8
38°	1427.4	1499.0	1555.4	1579.7	1602.7	1577.7	1521.9	1443.2	1367.8	1319.9	1283.0
38.5°	1381.5	1454.1	1513.7	1539.0	1555.8	1534.2	1479.4	1401.4	1325.4	1275.4	1237.4
39°	1333.6	1407.6	1469.5	1494.5	1509.6	1489.4	1435.3	1359.3	1281.9	1230.6	1191.9
39.5°	1287.4	1361.0	1424.7	1450.0	1462.0	1442.8	1390.4	1315.8	1238.8	1185.4	1144.7
40°	1241.2	1311.7	1377.8	1403.8	1414.1	1393.9	1344.6	1271.3	1192.9	1138.8	1097.4
40.5°	1195.3	1263.8	1332.6	1356.6	1366.8	1344.9	1298.7	1226.8	1148.1	1093.0	1049.2
41°	1148.8	1218.6	1286.4	1308.3	1319.6	1294.9	1249.4	1182.0	1102.2	1047.5	1001.2
41.5°	1102.9	1171.7	1239.1	1260.4	1274.1	1245.6	1201.1	1137.8	1056.4	1004.0	954.0
42°	1056.7	1124.5	1190.5	1232.0	1227.5	1196.0	1152.2	1090.9	1010.1	958.5	907.4
42.5°	1010.5	1077.6	1141.9	1179.9	1182.7	1146.7	1103.9	1044.7	967.4	914.3	862.6
43°	963.6	1030.3	1093.3	1126.9	1137.1	1098.1	1056.0	997.5	923.2	870.5	819.5
43.5°	917.7	984.8	1045.1	1074.2	1088.9	1050.5	1008.1	951.6	881.8	827.4	777.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	785.6	848.2	898.9	927.0	947.5	909.5	865.7	814.3	755.5	701.4	656.9
45.5°	743.8	802.7	851.0	881.4	900.9	862.3	819.1	771.6	714.0	661.3	619.2
46°	700.7	758.5	803.4	835.9	856.1	817.1	774.0	727.4	673.7	621.6	582.6
46.5°	658.3	714.7	756.2	790.7	812.6	772.6	728.4	684.6	632.6	585.0	547.3
47°	616.8	671.3	711.0	745.2	769.2	729.1	684.6	641.1	592.9	547.0	512.8
47.5°	576.4	628.5	667.5	701.0	726.0	686.7	641.8	600.1	554.5	512.1	480.3
48°	537.1	587.1	624.7	657.6	683.6	646.6	600.4	558.6	517.6	477.9	449.1
48.5°	499.4	547.0	582.6	615.5	641.8	607.9	560.7	519.3	481.3	446.0	419.7
49°	462.5	507.6	542.9	574.0	600.4	569.3	521.7	480.6	445.0	414.2	391.3
49.5°	426.9	469.3	503.9	534.0	559.3	531.9	485.7	444.0	410.1	384.1	363.2
50°	393.3	431.3	466.2	493.6	520.6	494.6	450.1	409.1	376.2	355.7	337.5
50.5°	360.1	394.3	429.2	455.3	482.6	459.4	416.6	375.9	344.4	330.7	313.9
51°	329.0	360.1	395.0	418.3	445.7	424.8	384.8	344.7	316.6	306.0	290.3
51.5°	298.1	327.6	361.5	383.4	411.1	391.9	354.3	318.3	289.2	281.0	267.0
52°	269.4	297.1	330.0	350.2	377.6	359.8	329.0	292.0	261.5	256.4	243.4
52.5°	242.0	267.7	299.2	317.7	345.0	332.4	303.3	265.3	234.1	231.7	221.5
53°	216.7	241.0	270.8	287.2	315.9	304.7	277.6	238.9	212.6	210.5	202.0
53.5°	192.7	216.3	243.0	258.8	286.9	277.3	251.9	216.7	193.1	191.3	182.8
54°	171.5	193.4	218.0	232.8	257.4	249.5	226.3	196.5	175.6	173.2	165.3
54.5°	152.0	171.8	193.4	208.1	228.7	222.2	205.4	178.0	159.9	155.7	147.5
55°	134.2	152.7	171.5	185.9	204.0	200.9	185.5	161.6	145.1	140.0	131.4
55.5°	117.1	133.8	150.6	165.0	181.8	179.0	166.7	145.1	130.8	124.3	115.7
56°	103.7	116.7	132.1	145.5	161.2	159.9	148.6	130.4	117.1	109.9	101.3
56.5°	90.0	103.0	116.0	127.0	142.4	141.4	131.4	116.4	104.1	96.2	87.6
57°	76.7	89.7	102.0	112.3	124.9	124.3	115.7	102.7	91.4	83.5	75.3
57.5°	63.3	76.0	87.6	97.9	108.2	107.8	100.6	89.7	79.8	71.9	63.7
58°	50.7	62.3	73.6	83.2	93.1	92.8	86.9	77.7	68.5	59.9	51.0
58.5°	38.3	48.9	59.6	68.8	79.4	79.1	74.3	66.1	56.5	51.0	43.5
59°	28.1	37.0	46.2	54.4	66.1	66.7	61.6	53.4	47.9	42.1	35.6
59.5°	20.5	27.0	33.9	40.7	55.8	57.5	52.0	45.2	39.4	32.9	28.1
60°	15.4	19.5	24.6	29.8	45.5	48.3	42.8	37.0	30.5	24.0	20.5
60.5°	11.3	14.7	17.8	21.2	35.3	39.0	33.2	28.8	21.9	15.1	12.7
61°	9.6	12.7	13.3	15.7	25.0	29.8	23.6	20.5	13.7	11.6	9.9
61.5°	7.9	10.6	11.3	11.6	14.7	20.5	14.4	12.3	10.3	9.2	7.9
62°	6.2	8.6	9.2	9.9	11.0	11.3	11.0	9.2	7.9	7.2	6.5
62.5°	4.4	6.5	7.2	8.2	8.6	8.6	8.2	7.5	6.2	5.8	5.1
63°	3.8	4.8	5.5	6.5	6.8	6.8	6.5	5.8	5.1	4.8	4.4
63.5°	3.1	3.8	4.4	4.8	5.5	5.5	5.1	4.8	4.1	4.1	3.8
64°	2.4	3.1	3.8	4.1	4.4	4.4	4.4	4.1	3.4	3.4	3.1
64.5°	2.1	2.7	3.1	3.4	3.8	3.8	3.4	3.4	2.7	2.7	2.7
65°	1.7	2.4	2.7	2.7	3.1	3.1	3.1	2.7	2.4	2.4	2.4
65.5°	1.7	2.1	2.1	2.4	2.7	2.4	2.4	2.4	2.1	2.1	2.1
66°	1.4	1.7	2.1	2.1	2.1	2.1	2.1	2.1	1.7	1.7	1.7





TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.0	1.0	1.4	1.4	1.4	1.4	1.4	1.4	1.0	1.0	1.0
68°	0.7	1.0	1.0	1.0	1.4	1.0	1.4	1.0	1.0	1.0	1.0
68.5°	0.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
69°	0.7	0.7	1.0	1.0	1.0	1.0	1.0	1.0	0.7	0.7	0.7
69.5°	0.7	0.7	0.7	0.7	1.0	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
70.5°	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71°	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
71.5°	0.3	0.3	0.7	0.7	0.7	0.7	0.7	0.7	0.3	0.3	0.3
72°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
75°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
75.5°	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
76°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
76.5°	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3
77°	0.0	0.0	0.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-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: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3123.2	3123.2	3123.2	3123.2	3123.2	3123.2
0.5°	3122.2	3118.4	3120.4	3122.2	3123.2	3122.5
1°	3118.7	3114.3	3116.7	3119.4	3121.1	3121.8
1.5°	3114.3	3109.5	3112.6	3115.7	3119.4	3120.8
2°	3108.8	3103.7	3107.1	3111.5	3115.7	3119.1
2.5°	3103.0	3097.2	3100.6	3106.8	3112.2	3119.1
3°	3096.1	3089.6	3094.1	3100.6	3108.8	3113.9
3.5°	3088.6	3081.4	3086.2	3094.8	3104.0	3110.9
4°	3080.7	3072.9	3078.0	3087.9	3099.2	3107.1
4.5°	3071.8	3062.9	3069.1	3080.4	3093.1	3102.3
5°	3061.9	3052.3	3059.2	3071.8	3086.6	3097.5
5.5°	3051.3	3041.7	3048.6	3062.9	3079.0	3093.1
6°	3040.0	3030.1	3038.0	3053.7	3071.5	3085.2
6.5°	3028.0	3017.1	3026.0	3043.1	3062.9	3078.3
7°	3015.7	3004.7	3013.6	3032.1	3054.0	3070.5
7.5°	3002.4	2990.7	3000.6	3021.2	3044.1	3061.6
8°	2989.0	2976.0	2987.3	3008.9	3033.5	3052.0
8.5°	2974.6	2960.9	2972.9	2995.9	3021.5	3042.1
9°	2960.3	2945.9	2957.9	2982.5	3009.5	3031.1
9.5°	2944.2	2929.8	2942.8	2968.1	2996.5	3019.1
10°	2928.4	2913.7	2926.7	2953.7	2983.2	3006.8
10.5°	2911.6	2895.9	2910.6	2938.3	2969.2	2993.5
11°	2894.5	2878.1	2893.5	2921.9	2954.4	2979.8
11.5°	2877.1	2860.3	2875.7	2905.1	2939.0	2965.4
12°	2858.6	2841.1	2857.6	2888.0	2922.6	2949.3
12.5°	2840.1	2822.3	2839.1	2869.9	2905.8	2933.6
13°	2820.6	2802.4	2819.6	2851.7	2889.1	2917.5
13.5°	2800.7	2782.3	2799.4	2832.6	2870.9	2900.0
14°	2779.9	2761.7	2778.8	2813.7	2852.8	2882.9
14.5°	2758.6	2740.5	2757.9	2793.9	2833.6	2864.4
15°	2736.7	2718.6	2736.4	2773.4	2815.1	2845.6
15.5°	2715.5	2695.6	2714.1	2752.1	2794.2	2826.1
16°	2692.6	2673.4	2691.9	2731.2	2774.0	2806.2
16.5°	2669.6	2649.4	2668.6	2710.0	2753.5	2785.7
17°	2645.7	2626.2	2645.3	2687.8	2732.3	2764.8
17.5°	2622.4	2601.5	2621.4	2664.2	2709.3	2742.9
18°	2598.4	2576.5	2597.4	2640.9	2686.7	2721.3
18.5°	2573.4	2551.2	2573.1	2616.9	2663.8	2699.1
19°	2548.8	2526.6	2547.4	2592.3	2639.9	2676.1
19.5°	2523.8	2500.9	2522.8	2568.0	2615.9	2652.9
20°	2498.8	2474.2	2497.8	2542.3	2591.2	2629.6
20.5°	2474.2	2448.2	2472.1	2516.3	2565.6	2605.3
21°	2447.5	2421.8	2446.1	2490.3	2539.9	2581.0

TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2365.7	2341.7	2365.7	2407.8	2459.5	2506.0
23°	2337.6	2314.0	2337.6	2379.7	2431.7	2480.3
23.5°	2309.9	2286.6	2310.9	2351.6	2403.7	2454.3
24°	2281.1	2258.5	2282.1	2322.9	2374.9	2427.3
24.5°	2252.4	2230.5	2254.4	2293.4	2346.8	2399.9
25°	2223.6	2201.4	2225.3	2264.0	2318.1	2372.2
25.5°	2194.2	2172.6	2196.6	2234.6	2288.6	2344.4
26°	2165.4	2143.5	2166.1	2203.4	2259.6	2316.7
26.5°	2135.3	2113.4	2135.3	2173.6	2229.8	2287.3
27°	2104.5	2082.6	2104.1	2141.1	2199.6	2258.5
27.5°	2073.0	2051.8	2072.0	2109.3	2168.8	2228.4
28°	2040.8	2017.9	2038.1	2076.8	2137.4	2198.6
28.5°	2007.3	1984.3	2005.9	2043.9	2105.5	2168.2
29°	1973.7	1949.8	1971.3	2010.7	2073.3	2137.0
29.5°	1939.5	1914.9	1936.1	1976.1	2040.5	2105.2
30°	1903.9	1878.2	1900.1	1941.9	2007.6	2073.0
30.5°	1867.6	1839.2	1863.8	1906.6	1973.0	2040.1
31°	1830.6	1800.2	1825.5	1871.4	1938.5	2006.6
31.5°	1793.0	1760.5	1787.2	1836.5	1903.6	1972.0
32°	1755.0	1719.7	1747.1	1798.8	1868.3	1936.1
32.5°	1715.3	1679.3	1707.4	1762.9	1832.4	1900.8
33°	1674.9	1637.2	1666.7	1725.9	1794.7	1863.8
33.5°	1633.8	1595.8	1625.9	1688.6	1757.4	1825.9
34°	1592.4	1554.4	1585.6	1649.9	1718.7	1785.8
34.5°	1550.0	1512.6	1544.1	1609.2	1680.0	1745.1
35°	1508.2	1471.6	1502.0	1568.4	1639.0	1702.6
35.5°	1466.1	1430.1	1461.6	1526.7	1598.2	1660.2
36°	1423.0	1389.4	1420.6	1484.2	1554.1	1614.7
36.5°	1380.2	1348.0	1379.1	1440.8	1509.2	1569.1
37°	1336.7	1305.9	1337.0	1392.8	1463.0	1522.2
37.5°	1292.9	1262.8	1294.3	1348.0	1417.8	1475.7
38°	1248.7	1220.3	1250.1	1300.4	1368.5	1427.4
38.5°	1203.2	1173.8	1204.2	1254.5	1319.9	1381.5
39°	1159.0	1127.2	1158.4	1228.2	1269.6	1333.6
39.5°	1113.9	1080.3	1112.5	1174.8	1212.8	1287.4
40°	1068.3	1033.8	1066.3	1121.0	1165.5	1241.2
40.5°	1023.1	988.9	1020.4	1067.6	1118.3	1195.3
41°	978.3	945.8	972.5	1014.2	1071.4	1148.8
41.5°	935.5	903.0	926.3	967.0	1024.2	1102.9
42°	890.3	861.6	881.1	919.4	976.6	1056.7
42.5°	846.9	819.5	837.6	872.5	930.0	1010.5
43°	804.1	778.1	794.5	826.0	882.5	963.6
43.5°	760.6	736.3	750.3	780.5	836.6	917.7



TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	639.8	613.4	623.3	648.7	706.9	785.6
45.5°	601.1	575.1	581.6	607.6	666.8	743.8
46°	563.4	537.4	541.9	568.2	627.1	700.7
46.5°	528.5	499.4	502.8	530.2	589.4	658.3
47°	492.2	463.5	465.9	493.3	551.1	616.8
47.5°	459.0	428.2	430.6	458.3	515.5	576.4
48°	427.2	394.3	396.4	424.8	479.2	537.1
48.5°	396.4	361.1	364.6	393.0	444.7	499.4
49°	367.3	330.7	334.1	362.8	410.4	462.5
49.5°	339.6	301.2	305.3	333.7	378.6	426.9
50°	314.9	273.8	279.3	306.7	346.8	393.3
50.5°	290.6	249.2	254.3	280.7	317.3	360.1
51°	266.0	226.9	232.1	256.7	289.6	329.0
51.5°	241.7	206.8	211.2	233.5	263.2	298.1
52°	220.8	188.6	192.4	212.6	238.6	269.4
52.5°	200.6	172.2	174.6	192.7	215.3	242.0
53°	181.4	156.4	158.8	173.5	193.1	216.7
53.5°	164.3	142.1	143.4	155.4	172.5	192.7
54°	147.9	128.4	129.0	139.0	153.7	171.5
54.5°	132.1	116.0	116.7	123.2	136.2	152.0
55°	117.8	104.1	104.4	110.2	118.8	134.2
55.5°	103.4	92.1	92.4	97.2	105.4	117.1
56°	90.4	80.1	80.1	84.2	92.1	103.7
56.5°	78.4	68.1	67.8	71.5	78.7	90.0
57°	67.1	55.8	55.5	58.5	65.4	76.7
57.5°	54.8	43.5	43.5	45.9	52.7	63.3
58°	46.6	33.2	32.9	34.9	40.4	50.7
58.5°	38.3	25.0	24.3	25.7	30.1	38.3
59°	30.1	18.5	18.1	19.2	22.2	28.1
59.5°	21.9	14.0	13.7	14.4	16.4	20.5
60°	13.7	12.0	11.6	12.3	12.3	15.4
60.5°	10.6	9.6	9.6	10.3	10.6	11.3
61°	8.6	7.5	7.2	8.6	8.6	9.6
61.5°	6.8	5.5	5.1	6.5	6.8	7.9
62°	5.5	4.4	4.4	4.4	5.1	6.2
62.5°	4.4	3.8	3.4	3.8	4.1	4.4
63°	3.8	3.1	3.1	3.1	3.4	3.8
63.5°	3.1	2.7	2.4	2.4	2.7	3.1
64°	2.7	2.4	2.1	2.1	2.4	2.4
64.5°	2.4	2.1	1.7	1.7	2.1	2.1
65°	2.1	1.7	1.4	1.7	1.7	1.7
65.5°	1.7	1.4	1.4	1.4	1.4	1.7
66°	1.4	1.4	1.0	1.0	1.4	1.4



TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.0	1.0	0.7	0.7	1.0	1.0
68°	1.0	0.7	0.7	0.7	0.7	0.7
68.5°	0.7	0.7	0.7	0.7	0.7	0.7
69°	0.7	0.7	0.7	0.7	0.7	0.7
69.5°	0.7	0.7	0.7	0.7	0.7	0.7
70°	0.7	0.7	0.3	0.3	0.3	0.3
70.5°	0.7	0.3	0.3	0.3	0.3	0.3
71°	0.3	0.3	0.3	0.3	0.3	0.3
71.5°	0.3	0.3	0.3	0.3	0.3	0.3
72°	0.3	0.3	0.3	0.3	0.3	0.3
72.5°	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.3	0.3	0.3
74.5°	0.3	0.3	0.3	0.3	0.3	0.3
75°	0.3	0.3	0.3	0.0	0.0	0.3
75.5°	0.3	0.0	0.0	0.0	0.0	0.0
76°	0.3	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776417

CATALOG NUMBER: HCDJBL3040CSD-HCD6TSQH-4000lm-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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Scaled Data Report



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Scaled Data Report





21.5°	2556.0	2597.1	2630.6	2638.5	2631.0	2613.2	2575.8	2526.2	2487.2	2459.8	2438.2
22°	2531.3	2572.4	2606.0	2614.2	2607.7	2589.5	2550.9	2501.6	2460.1	2432.4	2410.2



44°	872.2	938.9	996.4	1020.8	1041.3	1003.6	959.5	904.4	838.0	783.9	736.0
44.5°	828.4	893.8	947.5	973.9	994.1	956.7	913.3	859.2	797.9	743.1	696.9



66.5°	1.0	1.4	1.7	1.7	1.7	1.7	1.7	1.7	1.4	1.4	1.4
67°	1.0	1.4	1.4	1.4	1.7	1.7	1.7	1.4	1.4	1.4	1.4



89°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0



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21.5°	2420.1	2395.4	2419.4	2462.9	2513.2	2556.0
22°	2393.1	2368.4	2392.7	2435.8	2486.5	2531.3



44°	719.5	694.2	707.2	735.6	792.8	872.2
44.5°	679.8	653.1	665.4	691.8	749.6	828.4

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66.5°	1.4	1.0	1.0	1.0	1.0	1.0
67°	1.0	1.0	1.0	1.0	1.0	1.0

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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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Scaled Data Report



(END OF REPORT)