

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: P776471

Luminaire Tested: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776471
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B068)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4357.7 lumens
Efficiency: N/A
Efficacy: 113.2 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

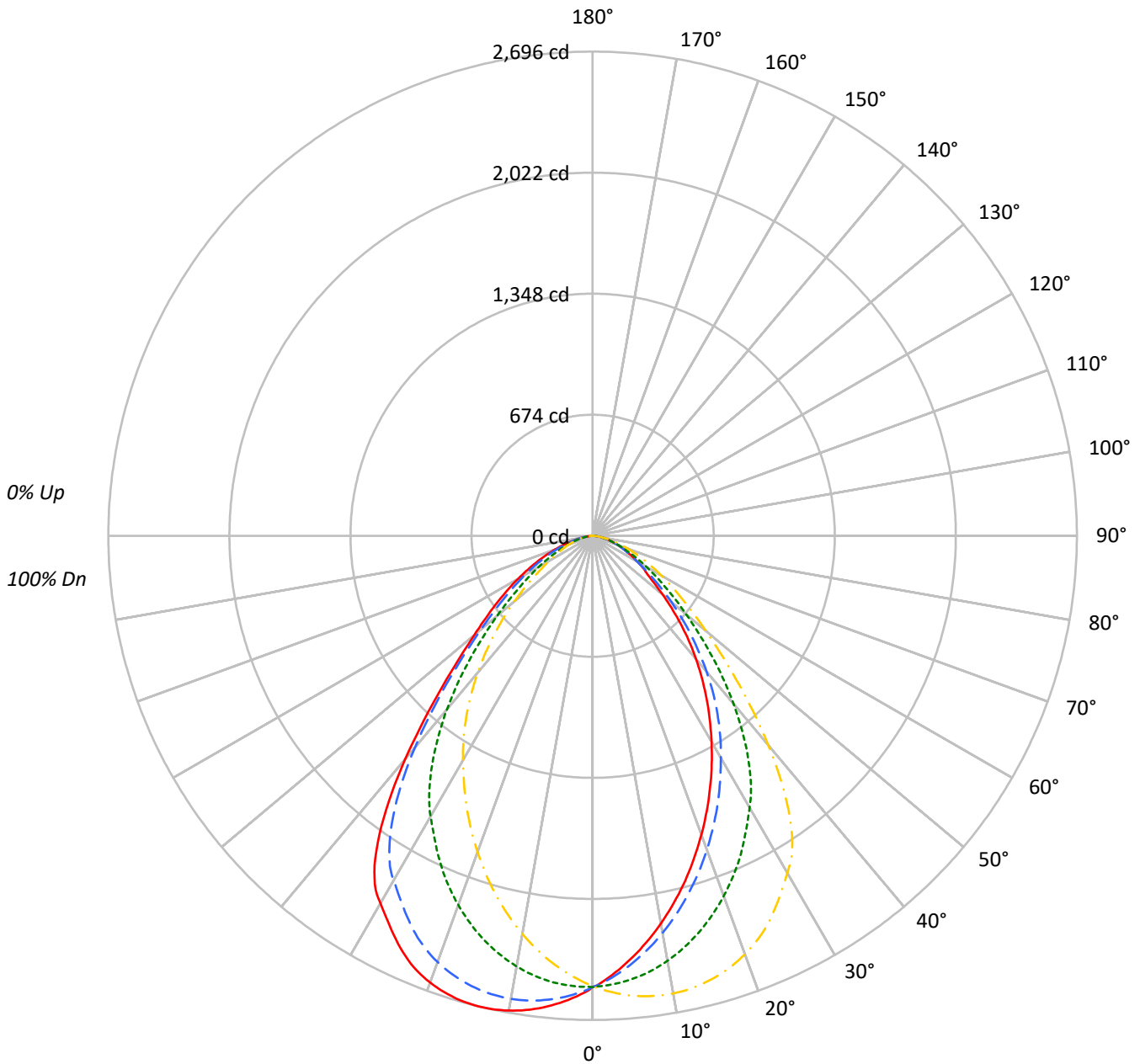
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78																			
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69																			
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40																			
9	64	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	76735	76735	76735	76735
5°	72661	75974	80448	76501
10°	67945	74484	83223	75491
15°	62864	72254	85122	73664
20°	57559	69362	86023	71068
25°	52126	65786	85287	67632
30°	46682	61644	83307	63615
35°	41184	56226	77761	58064
40°	35678	48595	64648	50280
45°	29882	40106	50754	41423
50°	24114	32255	40904	32963
55°	19774	26023	34502	26188
60°	17616	21060	29279	21103
65°	15214	17020	24490	16940
70°	13175	13595	19781	13488
75°	11312	10805	15052	10664
80°	9353	8668	9705	8334
85°	6586	6586	2872	6025

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 50754 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	235.8	5.4
10°-20°	653.3	15.0
20°-30°	923.1	21.2
30°-40°	970.4	22.3
40°-50°	731.7	16.8
50°-60°	453.5	10.4
60°-70°	255.1	5.9
70°-80°	112.6	2.6
80°-90°	22.3	0.5
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°	1812.2	41.6
0°-40°	2782.6	63.9
0°-60°	3967.8	91.1
0°-90°	4357.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4357.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2513	2513	2513	2513	2513	
5°	2371	2479	2625	2496	2371	221
15°	1989	2286	2693	2331	1989	557
25°	1547	1953	2532	2008	1547	710
35°	1105	1509	2086	1558	1105	690
45°	692	929	1176	959	692	534
55°	372	489	648	492	372	341
65°	211	236	339	234	211	211
75°	96	92	128	90	96	103
85°	19	19	8	17	19	23
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°	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4
0.5°	2505.2	2506.4	2506.0	2506.0	2509.9	2512.6	2515.4	2528.3	2531.0	2531.0	2525.6
1°	2491.9	2493.8	2495.8	2499.7	2508.3	2516.2	2523.2	2539.3	2542.8	2542.4	2534.2
1.5°	2478.2	2480.5	2485.2	2493.1	2506.4	2519.3	2531.0	2549.8	2554.9	2553.7	2543.2
2°	2463.7	2466.8	2473.9	2485.6	2504.0	2522.0	2538.1	2559.6	2566.3	2564.3	2551.0
2.5°	2449.2	2452.7	2462.5	2477.8	2500.9	2524.0	2544.3	2569.0	2576.8	2574.5	2559.2
3°	2434.3	2438.7	2450.0	2470.0	2497.4	2525.6	2550.6	2577.6	2587.8	2584.3	2565.9
3.5°	2419.1	2424.2	2438.3	2461.4	2493.8	2526.7	2556.5	2586.6	2597.6	2593.7	2572.5
4°	2403.4	2408.9	2425.3	2452.7	2489.1	2527.5	2561.6	2594.4	2607.0	2602.7	2578.8
4.5°	2387.4	2393.2	2412.0	2443.4	2484.5	2527.9	2566.7	2602.3	2616.0	2610.9	2585.1
5°	2370.9	2378.0	2398.3	2433.6	2479.0	2527.5	2570.6	2609.3	2625.0	2619.1	2590.1
5.5°	2354.5	2361.9	2385.0	2423.4	2473.5	2527.1	2574.5	2616.0	2633.2	2626.5	2595.2
6°	2337.7	2345.1	2370.5	2412.4	2467.2	2525.6	2578.0	2622.2	2640.6	2633.6	2599.5
6.5°	2320.4	2328.3	2356.1	2401.5	2460.6	2524.0	2580.7	2627.7	2647.7	2640.2	2603.8
7°	2302.4	2311.4	2340.8	2390.1	2453.9	2522.0	2583.1	2633.2	2654.7	2646.1	2607.0
7.5°	2285.2	2294.6	2325.9	2378.4	2446.1	2519.7	2585.1	2637.9	2661.0	2652.0	2610.1
8°	2266.8	2276.6	2310.3	2366.2	2438.3	2516.2	2586.6	2642.2	2666.9	2657.1	2612.5
8.5°	2248.4	2259.0	2294.6	2353.7	2430.0	2513.0	2587.4	2645.7	2672.0	2661.8	2614.4
9°	2229.2	2240.6	2277.8	2340.8	2421.0	2509.1	2587.8	2649.2	2676.6	2665.7	2616.4
9.5°	2210.8	2222.2	2261.7	2327.5	2412.0	2504.8	2587.8	2652.0	2681.0	2669.2	2617.1
10°	2191.7	2203.4	2244.9	2313.4	2402.6	2499.7	2587.4	2653.9	2684.5	2672.3	2617.9
10.5°	2172.1	2184.6	2227.7	2300.1	2392.5	2494.2	2586.6	2655.9	2687.6	2675.1	2617.9
11°	2152.5	2165.4	2210.1	2285.6	2381.9	2488.8	2585.1	2657.1	2690.3	2677.0	2617.5
11.5°	2132.9	2146.3	2192.8	2270.7	2371.3	2482.5	2583.5	2657.9	2692.7	2679.0	2616.4
12°	2113.0	2126.3	2174.8	2255.5	2360.4	2476.2	2581.1	2657.9	2694.3	2679.8	2615.2
12.5°	2092.2	2106.7	2156.4	2240.6	2348.6	2469.2	2578.0	2657.9	2695.4	2680.6	2613.2
13°	2071.5	2086.4	2138.0	2224.5	2336.9	2461.7	2574.9	2657.1	2696.2	2680.6	2610.9
13.5°	2051.5	2066.0	2119.6	2209.3	2325.1	2453.9	2571.0	2655.9	2696.2	2680.2	2608.1
14°	2030.8	2046.0	2100.8	2192.8	2311.8	2445.7	2566.7	2653.9	2695.8	2679.0	2604.6
14.5°	2009.6	2025.3	2081.7	2176.4	2298.9	2436.7	2562.0	2652.0	2694.7	2677.4	2600.7
15°	1988.9	2004.9	2062.1	2159.6	2286.0	2427.7	2556.9	2648.9	2693.1	2675.5	2596.4
15.5°	1967.0	1983.8	2042.5	2142.3	2272.3	2417.9	2551.0	2645.7	2691.1	2673.1	2591.7
16°	1945.8	1962.7	2022.9	2125.1	2258.2	2408.1	2545.1	2641.8	2688.4	2670.0	2586.2
16.5°	1924.3	1941.5	2003.4	2107.9	2243.7	2397.6	2538.5	2637.5	2685.7	2666.5	2580.4
17°	1902.8	1920.8	1983.8	2089.9	2229.2	2387.0	2531.4	2632.8	2681.7	2662.2	2574.1
17.5°	1880.9	1899.3	1963.1	2072.3	2214.4	2376.0	2524.0	2627.3	2677.4	2657.5	2567.0
18°	1858.9	1877.7	1943.1	2053.5	2199.1	2364.3	2516.2	2621.5	2672.7	2652.0	2560.0
18.5°	1837.0	1855.8	1922.3	2035.5	2183.0	2352.5	2507.5	2614.8	2667.3	2646.1	2552.2
19°	1815.5	1834.3	1902.0	2016.7	2167.4	2340.0	2498.5	2607.8	2661.4	2639.9	2543.6
19.5°	1792.8	1812.4	1881.2	1997.9	2151.3	2327.5	2489.1	2600.3	2655.1	2632.8	2534.6
20°	1771.6	1790.8	1860.1	1979.1	2134.9	2314.2	2479.4	2592.1	2647.7	2624.6	2525.2
20.5°	1748.9	1769.3	1839.4	1959.5	2117.7	2300.9	2469.2	2583.5	2639.9	2616.4	2515.4
21°	1727.0	1747.4	1818.2	1940.0	2100.8	2286.8	2457.8	2574.1	2631.2	2607.8	2504.4



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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°	1659.7	1680.8	1754.4	1880.9	2048.0	2242.2	2422.2	2541.6	2600.7	2576.0	2468.4
23°	1637.4	1658.9	1732.9	1860.5	2029.6	2226.5	2408.9	2529.1	2589.0	2563.9	2455.1
23.5°	1615.1	1636.2	1711.0	1840.1	2010.8	2210.4	2394.8	2516.2	2576.0	2551.0	2441.0
24°	1592.8	1614.3	1690.2	1819.8	1992.0	2193.6	2380.3	2501.3	2562.3	2536.5	2425.7
24.5°	1570.1	1592.0	1667.9	1799.0	1972.8	2176.0	2364.7	2486.0	2547.5	2521.6	2409.7
25°	1547.4	1569.7	1646.4	1777.9	1952.9	2158.0	2348.2	2470.0	2531.8	2505.6	2392.9
25.5°	1525.0	1547.0	1624.5	1756.8	1932.1	2138.8	2331.0	2453.9	2515.8	2489.9	2375.6
26°	1502.7	1525.4	1602.5	1735.6	1912.2	2119.6	2313.4	2436.3	2499.3	2472.3	2357.6
26.5°	1480.4	1503.1	1580.6	1714.5	1891.0	2099.7	2295.0	2418.7	2482.5	2455.5	2340.0
27°	1458.5	1480.8	1559.1	1693.0	1869.9	2080.5	2277.0	2401.5	2465.3	2438.7	2321.6
27.5°	1435.8	1458.5	1537.2	1671.0	1849.5	2060.9	2258.6	2384.6	2448.0	2421.0	2303.6
28°	1413.1	1436.6	1514.9	1649.5	1828.8	2041.3	2240.6	2366.6	2430.4	2403.4	2285.6
28.5°	1390.4	1413.9	1492.9	1628.0	1808.4	2021.4	2221.4	2349.4	2413.6	2386.6	2268.0
29°	1368.5	1392.0	1471.8	1606.8	1788.1	2002.2	2203.4	2331.8	2396.0	2369.0	2249.6
29.5°	1346.5	1369.6	1449.9	1585.7	1768.1	1983.0	2185.0	2315.0	2379.2	2351.8	2232.0
30°	1324.2	1347.7	1428.0	1565.4	1748.6	1964.2	2167.4	2298.5	2363.1	2335.7	2215.5
30.5°	1301.5	1325.8	1406.4	1544.2	1728.2	1945.4	2150.2	2282.9	2347.8	2320.4	2199.1
31°	1279.6	1303.9	1385.7	1523.9	1708.2	1927.0	2133.7	2265.6	2331.0	2302.8	2180.3
31.5°	1257.7	1282.0	1364.6	1502.3	1686.3	1905.9	2114.2	2244.5	2311.0	2282.5	2158.8
32°	1235.8	1260.4	1343.0	1481.2	1663.6	1883.6	2092.2	2220.2	2287.6	2258.6	2133.7
32.5°	1213.1	1238.1	1321.9	1458.5	1639.3	1858.2	2067.6	2194.4	2260.9	2231.6	2107.1
33°	1191.5	1217.0	1300.0	1436.6	1614.7	1832.3	2041.0	2164.3	2230.8	2201.8	2078.5
33.5°	1170.4	1195.8	1278.8	1413.1	1588.5	1804.1	2011.6	2132.5	2198.3	2169.7	2047.2
34°	1148.5	1174.3	1256.5	1388.8	1562.2	1775.6	1981.1	2097.3	2163.1	2135.7	2015.1
34.5°	1126.9	1153.2	1234.2	1364.9	1535.6	1745.8	1948.2	2061.3	2125.9	2099.3	1981.5
35°	1105.0	1131.6	1211.9	1341.1	1508.6	1714.5	1914.5	2021.8	2086.4	2060.1	1947.0
35.5°	1083.5	1110.1	1189.6	1316.4	1480.4	1683.6	1878.5	1981.5	2044.5	2021.0	1910.6
36°	1062.8	1088.6	1167.3	1291.7	1452.6	1651.9	1842.5	1939.2	2001.0	1979.1	1872.2
36.5°	1041.2	1067.4	1145.0	1266.7	1423.7	1619.0	1805.7	1896.9	1956.4	1935.7	1833.1
37°	1020.5	1046.3	1122.6	1242.4	1395.1	1585.3	1765.8	1851.5	1910.6	1891.0	1793.6
37.5°	998.9	1024.8	1099.5	1217.4	1366.1	1552.0	1726.6	1806.1	1864.0	1844.8	1752.5
38°	978.2	1003.6	1077.2	1191.9	1336.4	1517.6	1685.5	1760.7	1816.7	1798.7	1711.0
38.5°	957.1	981.7	1054.5	1166.1	1307.4	1483.9	1644.8	1716.8	1768.9	1752.1	1668.3
39°	936.3	961.0	1031.8	1141.0	1279.2	1449.1	1604.1	1669.1	1719.6	1704.7	1625.6
39.5°	916.0	939.8	1009.5	1116.0	1249.5	1413.9	1562.6	1623.3	1670.7	1656.2	1582.6
40°	895.2	918.7	986.0	1090.5	1219.3	1378.6	1521.1	1576.3	1622.1	1608.4	1539.1
40.5°	874.5	897.6	963.7	1064.3	1190.0	1343.8	1478.8	1531.7	1573.2	1561.1	1495.3
41°	854.1	876.8	941.0	1039.3	1160.2	1308.6	1438.1	1485.5	1526.2	1514.1	1452.2
41.5°	833.4	856.1	919.1	1014.2	1131.3	1273.0	1397.4	1439.7	1477.7	1467.1	1409.2
42°	812.6	835.3	896.8	989.2	1101.5	1238.1	1357.1	1395.9	1431.9	1420.5	1366.9
42.5°	792.7	815.0	874.5	964.9	1072.1	1203.3	1317.6	1352.8	1386.1	1375.1	1325.0
43°	772.3	794.6	853.3	940.2	1043.2	1169.6	1277.7	1310.5	1341.5	1331.7	1283.5
43.5°	752.3	774.3	831.8	916.0	1013.8	1135.6	1238.9	1269.0	1297.6	1287.4	1242.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	692.1	714.4	768.0	843.9	928.9	1036.5	1128.1	1151.2	1175.5	1166.5	1127.3
45.5°	672.5	694.0	747.3	820.8	901.5	1005.2	1092.9	1114.8	1137.5	1127.7	1090.2
46°	653.3	674.8	726.5	798.1	874.5	974.7	1058.8	1079.2	1101.1	1091.7	1054.1
46.5°	634.5	656.0	706.9	775.4	848.2	943.8	1025.6	1044.4	1065.9	1056.1	1019.3
47°	615.3	636.5	686.2	752.0	822.0	913.6	993.1	1012.3	1032.6	1022.4	986.8
47.5°	596.6	618.5	666.2	730.8	796.6	885.0	961.8	980.9	1001.3	990.3	954.7
48°	578.2	600.1	646.7	708.5	772.3	858.0	931.6	950.8	970.8	960.2	923.8
48.5°	560.1	582.1	627.1	687.0	748.8	830.6	903.0	921.8	941.0	930.1	893.7
49°	541.7	564.8	608.3	665.8	724.9	803.6	874.5	894.4	914.0	902.7	865.9
49.5°	525.3	547.6	589.1	645.5	701.5	779.0	847.9	867.4	887.0	874.5	837.7
50°	507.7	530.4	570.7	624.7	679.1	754.3	821.6	842.0	861.2	849.0	811.4
50.5°	490.9	514.3	552.3	604.4	657.6	730.0	795.8	816.9	836.1	823.6	786.0
51°	474.8	497.5	534.7	584.8	636.5	706.5	771.5	793.4	812.2	799.3	761.7
51.5°	459.5	481.9	517.1	566.0	616.1	684.2	748.4	770.3	789.5	776.6	738.3
52°	444.3	465.8	499.5	547.6	596.2	662.3	725.3	748.8	767.2	753.9	715.5
52.5°	429.8	450.9	483.0	529.2	577.0	642.0	703.4	726.9	746.1	732.0	693.2
53°	416.5	436.1	466.6	511.2	558.2	621.2	681.9	706.5	725.3	711.2	672.1
53.5°	403.6	421.6	450.5	494.0	540.2	601.2	661.5	686.6	705.4	690.9	651.4
54°	391.8	407.5	434.9	477.2	522.6	581.7	641.6	667.0	686.2	671.3	632.2
54.5°	381.3	394.2	419.6	461.5	505.7	563.7	622.0	648.2	667.0	652.1	613.0
55°	371.5	381.7	405.1	445.5	488.9	545.3	603.6	629.8	648.2	633.7	594.2
55.5°	362.5	369.1	391.0	430.6	472.9	527.7	585.6	611.8	630.2	615.7	576.2
56°	354.3	357.8	377.3	415.3	456.8	510.8	567.6	594.6	612.2	598.5	558.6
56.5°	348.0	346.8	364.4	401.2	441.5	494.0	550.4	577.4	594.6	580.5	541.4
57°	340.6	336.6	351.5	387.1	426.3	477.6	533.5	560.5	577.4	563.7	524.9
57.5°	331.9	327.2	339.4	373.4	411.8	461.9	517.1	544.5	560.5	547.6	508.9
58°	323.3	319.4	327.6	360.1	397.7	447.0	501.0	528.0	543.7	531.6	493.2
58.5°	314.7	311.6	316.3	347.6	384.0	432.1	485.8	512.0	526.9	515.1	477.2
59°	306.1	303.8	305.3	335.1	370.7	417.7	470.1	496.3	510.8	499.1	462.3
59.5°	297.1	295.5	295.1	322.9	357.8	403.6	455.2	480.7	494.8	483.4	447.4
60°	288.5	287.7	285.0	311.2	344.9	389.9	440.8	465.8	479.5	468.6	432.9
60.5°	279.9	279.5	275.6	299.8	333.1	377.0	425.9	450.9	463.9	453.3	418.8
61°	271.7	271.3	266.2	288.5	321.4	363.6	411.8	436.5	449.0	438.8	404.7
61.5°	263.4	263.4	257.2	277.9	309.2	350.7	398.1	422.0	434.1	424.7	391.4
62°	255.6	255.6	249.0	267.4	297.5	339.0	385.2	407.9	419.6	411.0	378.1
62.5°	247.4	247.8	240.7	257.2	286.9	326.9	371.9	393.8	405.5	396.1	365.2
63°	240.0	240.3	232.9	247.4	276.0	315.1	358.9	380.5	391.4	382.8	352.7
63.5°	232.1	232.9	225.5	238.0	265.4	303.4	346.4	367.6	377.7	369.5	340.6
64°	225.1	225.5	218.8	229.0	255.2	291.6	334.3	354.3	364.4	356.6	328.4
64.5°	217.6	218.4	212.2	220.4	245.0	280.7	322.2	342.1	351.5	344.1	316.7
65°	210.6	211.8	205.9	211.8	235.6	270.1	310.0	330.0	339.0	331.9	304.5
65.5°	203.9	204.7	199.6	203.5	226.3	259.5	298.3	317.8	326.5	319.8	292.4
66°	196.9	198.1	193.4	195.7	216.9	249.0	287.3	305.7	314.3	307.7	281.4



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	177.3	178.9	175.0	173.4	191.0	220.0	254.8	270.5	277.1	272.0	249.0
68°	171.4	172.6	169.5	166.8	182.4	210.6	244.3	259.1	265.4	260.7	238.4
68.5°	165.2	166.4	163.6	160.1	174.6	201.6	233.7	248.6	254.4	250.1	228.6
69°	159.3	160.5	157.7	153.8	167.1	192.6	223.9	237.6	243.1	239.2	218.4
69.5°	153.1	154.6	152.3	147.6	159.7	184.4	214.1	227.4	232.5	228.6	209.0
70°	147.6	148.7	146.8	141.3	152.3	176.1	204.7	217.2	221.6	218.4	199.6
70.5°	141.7	143.3	140.9	135.8	145.6	167.9	195.3	207.5	211.4	209.0	190.6
71°	136.2	137.8	135.8	130.7	138.6	160.1	186.7	197.7	201.2	198.9	181.2
71.5°	131.1	132.7	131.1	125.7	132.3	152.3	177.7	188.7	191.4	189.5	172.6
72°	126.0	127.6	126.0	120.6	125.7	144.8	169.1	178.9	181.2	180.1	164.0
72.5°	120.6	122.1	121.3	115.1	119.4	137.8	160.5	170.3	171.8	170.7	155.4
73°	115.5	117.0	116.3	110.4	113.5	130.7	152.3	161.3	162.4	162.1	147.2
73.5°	110.4	112.0	111.2	105.7	107.6	123.7	144.0	152.7	153.4	153.4	139.7
74°	105.7	106.9	106.5	101.4	102.2	117.0	136.6	144.4	144.8	145.2	131.9
74.5°	100.6	102.2	101.8	96.7	96.7	110.8	128.8	136.6	135.8	137.0	124.1
75°	95.9	97.5	97.5	92.4	91.6	104.5	121.3	128.4	127.6	128.8	117.0
75.5°	91.2	92.8	92.8	88.5	86.9	98.6	114.3	121.0	119.4	121.3	110.0
76°	86.9	88.1	88.5	84.2	81.8	92.8	107.3	113.5	111.2	113.9	102.9
76.5°	82.2	83.8	84.2	80.2	77.5	86.9	100.6	106.1	103.3	106.5	96.3
77°	77.9	79.1	79.9	76.3	72.8	81.8	94.3	99.0	95.9	99.4	90.0
77.5°	73.6	74.8	75.5	72.4	68.5	76.3	87.7	92.4	88.5	92.8	83.8
78°	69.3	70.9	71.6	68.5	64.6	71.6	81.8	85.7	81.4	86.1	77.5
78.5°	65.4	66.5	67.3	65.0	60.3	66.5	75.9	79.5	74.4	79.5	72.0
79°	61.1	62.6	63.4	61.1	56.8	61.8	70.1	73.2	67.7	73.6	66.2
79.5°	57.1	58.7	59.5	57.5	52.8	57.5	64.6	67.3	61.5	67.3	61.1
80°	53.2	54.4	55.6	54.0	49.3	53.2	59.1	61.5	55.2	61.8	55.6
80.5°	49.7	50.5	52.1	50.5	45.8	48.9	54.4	55.6	49.3	56.0	50.5
81°	45.8	47.0	48.5	47.4	42.3	45.0	49.3	50.1	43.4	50.5	45.8
81.5°	42.3	43.4	45.0	43.8	39.1	41.1	44.6	44.6	38.4	45.4	41.1
82°	38.8	39.5	41.5	40.7	36.0	37.2	40.3	39.9	33.3	40.7	37.2
82.5°	35.2	36.0	38.0	37.2	32.9	34.1	36.4	35.2	28.6	36.0	33.3
83°	31.7	32.9	34.8	34.1	30.1	30.9	32.5	30.5	23.5	31.3	29.0
83.5°	28.2	29.4	31.3	31.3	27.4	27.4	28.6	25.8	18.4	26.6	25.1
84°	25.1	25.8	28.2	28.2	24.3	24.3	24.7	21.1	14.5	21.9	21.1
84.5°	21.9	22.7	25.1	25.1	21.5	21.1	20.7	16.8	11.0	17.2	18.0
85°	18.8	19.6	21.9	22.3	18.8	18.4	17.6	13.3	8.2	13.3	14.9
85.5°	15.7	16.0	19.2	19.2	16.0	15.7	14.9	10.6	6.3	10.6	12.1
86°	13.3	14.1	16.4	16.4	13.7	12.9	12.1	7.8	5.1	7.8	9.4
86.5°	11.0	11.7	13.7	14.1	11.4	10.6	9.4	5.5	3.9	5.5	7.0
87°	8.6	9.4	11.4	11.4	9.0	8.2	7.0	3.5	2.7	3.5	5.1
87.5°	6.3	7.0	9.0	9.0	6.7	5.9	5.1	2.0	2.0	2.0	3.1
88°	4.3	5.1	6.7	6.3	4.7	3.9	3.1	0.8	0.8	0.8	1.6
88.5°	2.7	3.1	3.9	3.9	2.3	2.0	1.6	0.4	0.4	0.4	0.4



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2513.4	2513.4	2513.4	2513.4	2513.4	2513.4
0.5°	2517.3	2511.9	2504.4	2497.8	2505.6	2505.2
1°	2522.0	2511.9	2499.3	2488.8	2493.5	2491.9
1.5°	2526.3	2511.9	2493.8	2479.0	2480.9	2478.2
2°	2530.6	2510.7	2488.0	2468.4	2468.0	2463.7
2.5°	2534.2	2509.5	2481.3	2457.4	2454.7	2449.2
3°	2537.3	2507.5	2474.7	2446.9	2441.0	2434.3
3.5°	2539.6	2505.2	2467.2	2435.5	2427.3	2419.1
4°	2542.0	2502.8	2459.8	2423.8	2412.8	2403.4
4.5°	2543.6	2499.7	2451.6	2411.3	2397.9	2387.4
5°	2544.3	2496.2	2443.4	2398.3	2383.1	2370.9
5.5°	2545.1	2492.3	2434.0	2385.4	2367.4	2354.5
6°	2545.5	2487.6	2425.0	2372.1	2351.8	2337.7
6.5°	2545.1	2482.5	2415.2	2358.0	2335.7	2320.4
7°	2544.3	2477.4	2404.6	2344.3	2318.9	2302.4
7.5°	2543.2	2471.1	2394.0	2329.1	2302.4	2285.2
8°	2541.6	2464.9	2383.1	2314.6	2285.2	2266.8
8.5°	2539.6	2458.2	2371.3	2298.9	2268.0	2248.4
9°	2536.9	2450.8	2359.2	2283.6	2250.0	2229.2
9.5°	2533.8	2443.0	2346.7	2267.2	2232.0	2210.8
10°	2530.3	2435.1	2334.1	2251.5	2214.0	2191.7
10.5°	2526.3	2426.5	2321.2	2234.7	2195.6	2172.1
11°	2521.6	2417.1	2307.9	2218.3	2176.8	2152.5
11.5°	2516.9	2407.7	2293.8	2200.7	2157.6	2132.9
12°	2511.1	2397.9	2279.7	2183.4	2138.4	2113.0
12.5°	2505.6	2387.8	2265.2	2165.8	2118.8	2092.2
13°	2498.9	2377.2	2250.8	2147.8	2099.3	2071.5
13.5°	2492.3	2366.2	2235.5	2129.8	2079.7	2051.5
14°	2484.8	2354.9	2219.8	2111.0	2059.4	2030.8
14.5°	2477.4	2343.1	2203.8	2092.2	2039.4	2009.6
15°	2469.2	2330.6	2188.1	2073.8	2018.6	1988.9
15.5°	2460.6	2318.1	2171.3	2053.9	1997.9	1967.0
16°	2451.6	2304.8	2154.9	2034.7	1977.1	1945.8
16.5°	2442.2	2291.9	2138.0	2014.7	1956.0	1924.3
17°	2432.0	2277.8	2120.4	1995.5	1935.3	1902.8
17.5°	2421.8	2263.7	2103.2	1976.0	1914.1	1880.9
18°	2410.9	2249.2	2085.2	1955.2	1893.0	1858.9
18.5°	2399.9	2234.3	2067.2	1934.9	1871.5	1837.0
19°	2387.8	2219.1	2048.8	1914.9	1849.5	1815.5
19.5°	2375.6	2203.8	2030.4	1894.6	1828.0	1792.8
20°	2363.1	2187.4	2011.6	1873.8	1806.5	1771.6
20.5°	2349.8	2171.7	1992.8	1852.7	1785.0	1748.9
21°	2336.5	2154.9	1973.2	1831.9	1763.0	1727.0

TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2293.0	2103.2	1914.5	1768.5	1697.3	1659.7
23°	2277.4	2084.8	1894.2	1747.0	1674.6	1637.4
23.5°	2260.5	2066.4	1873.8	1725.8	1653.0	1615.1
24°	2243.7	2047.6	1853.1	1703.5	1631.1	1592.8
24.5°	2225.7	2028.0	1832.3	1682.8	1608.4	1570.1
25°	2206.9	2007.7	1811.2	1660.5	1586.1	1547.4
25.5°	2188.1	1987.7	1790.0	1638.6	1564.2	1525.0
26°	2168.6	1967.4	1768.5	1617.0	1541.9	1502.7
26.5°	2149.4	1946.2	1747.0	1595.5	1519.6	1480.4
27°	2130.2	1925.1	1725.1	1573.2	1497.6	1458.5
27.5°	2110.6	1904.7	1703.5	1550.9	1474.9	1435.8
28°	2091.1	1884.4	1682.0	1529.0	1453.0	1413.1
28.5°	2071.9	1863.6	1661.3	1507.8	1430.3	1390.4
29°	2053.1	1843.7	1640.1	1485.9	1408.8	1368.5
29.5°	2034.7	1824.1	1619.8	1464.8	1386.5	1346.5
30°	2016.7	1804.5	1599.0	1442.8	1364.6	1324.2
30.5°	1997.9	1785.0	1577.9	1421.7	1342.6	1301.5
31°	1976.8	1763.8	1556.4	1400.6	1321.1	1279.6
31.5°	1954.4	1741.9	1535.2	1379.0	1299.2	1257.7
32°	1929.4	1717.6	1512.5	1357.5	1277.3	1235.8
32.5°	1902.8	1692.6	1489.4	1335.6	1255.3	1213.1
33°	1874.6	1667.5	1465.9	1313.7	1234.2	1191.5
33.5°	1845.6	1640.5	1442.1	1291.7	1212.7	1170.4
34°	1815.5	1613.5	1417.4	1269.4	1191.1	1148.5
34.5°	1785.0	1586.1	1392.3	1246.7	1169.6	1126.9
35°	1753.6	1557.9	1367.3	1224.0	1148.5	1105.0
35.5°	1721.1	1529.7	1342.2	1200.9	1126.6	1083.5
36°	1688.3	1500.8	1316.8	1178.6	1105.4	1062.8
36.5°	1654.2	1472.2	1291.4	1155.5	1083.9	1041.2
37°	1619.8	1442.4	1265.1	1132.0	1062.4	1020.5
37.5°	1584.9	1413.1	1239.7	1108.9	1040.8	998.9
38°	1549.7	1382.6	1213.5	1085.8	1019.3	978.2
38.5°	1514.5	1352.8	1187.6	1062.8	997.8	957.1
39°	1478.8	1322.3	1162.2	1040.0	976.2	936.3
39.5°	1442.8	1292.1	1135.6	1017.0	955.1	916.0
40°	1405.3	1261.6	1109.7	993.9	934.0	895.2
40.5°	1368.5	1230.7	1083.9	971.2	912.4	874.5
41°	1332.5	1199.8	1058.1	948.5	891.3	854.1
41.5°	1295.7	1169.2	1032.2	925.4	869.8	833.4
42°	1259.3	1139.1	1006.8	903.4	849.0	812.6
42.5°	1222.1	1107.8	981.7	881.5	828.3	792.7
43°	1186.1	1078.0	956.3	858.8	807.9	772.3
43.5°	1150.4	1047.9	930.4	836.5	787.6	752.3



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1047.1	959.4	856.5	771.5	726.1	692.1
45.5°	1013.0	930.1	831.8	750.0	706.5	672.5
46°	981.3	901.9	807.9	729.2	686.6	653.3
46.5°	948.5	873.7	784.0	708.5	667.4	634.5
47°	917.5	846.7	760.6	687.4	648.2	615.3
47.5°	887.4	819.3	737.1	666.6	629.4	596.6
48°	858.8	793.1	714.8	646.7	611.0	578.2
48.5°	829.8	767.2	692.1	626.3	592.2	560.1
49°	802.1	742.6	670.1	607.1	574.6	541.7
49.5°	775.8	718.3	648.2	587.5	557.0	525.3
50°	750.4	694.0	627.1	568.4	539.4	507.7
50.5°	724.9	670.5	605.9	549.2	522.6	490.9
51°	701.5	648.2	586.0	531.2	505.0	474.8
51.5°	678.8	626.7	566.0	512.8	488.9	459.5
52°	656.4	605.6	546.8	496.0	472.9	444.3
52.5°	634.5	585.2	528.0	478.3	456.8	429.8
53°	613.8	565.2	509.7	461.5	441.1	416.5
53.5°	593.4	546.1	492.0	445.1	425.9	403.6
54°	574.6	527.7	474.4	429.4	411.0	391.8
54.5°	555.8	510.0	458.0	413.7	396.9	381.3
55°	537.4	492.0	441.9	398.9	383.6	371.5
55.5°	520.2	475.6	426.3	384.4	370.7	362.5
56°	503.0	459.5	411.0	370.7	358.2	354.3
56.5°	486.6	443.5	396.1	357.4	346.4	348.0
57°	470.5	427.8	382.0	344.1	335.9	340.6
57.5°	454.9	413.4	368.3	331.9	325.3	331.9
58°	440.0	399.3	355.0	320.2	315.9	323.3
58.5°	425.1	385.2	342.1	308.8	307.3	314.7
59°	410.6	371.1	329.6	297.9	299.4	306.1
59.5°	396.9	358.6	317.5	286.9	292.0	297.1
60°	383.2	345.6	305.7	277.1	284.2	288.5
60.5°	369.9	333.1	294.4	267.4	276.4	279.9
61°	357.0	320.2	283.4	258.0	268.5	271.7
61.5°	344.9	308.8	272.4	249.0	260.7	263.4
62°	332.7	297.5	261.9	240.7	253.3	255.6
62.5°	321.0	286.5	252.1	232.1	245.4	247.4
63°	308.8	275.2	242.3	224.3	238.0	240.0
63.5°	297.1	264.6	232.9	216.9	230.9	232.1
64°	285.7	254.4	223.5	209.4	223.5	225.1
64.5°	275.2	244.3	214.9	202.4	216.9	217.6
65°	263.8	234.5	206.3	196.1	209.8	210.6
65.5°	253.7	225.1	198.1	189.8	203.2	203.9
66°	243.5	215.7	190.2	184.0	196.5	196.9



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	214.5	189.8	167.9	166.4	176.9	177.3
68°	205.5	181.6	160.9	160.9	171.1	171.4
68.5°	196.5	173.4	154.2	155.4	164.8	165.2
69°	187.9	166.0	148.0	149.5	159.3	159.3
69.5°	179.3	158.5	141.7	144.4	153.4	153.1
70°	171.1	151.1	136.2	139.4	147.6	147.6
70.5°	162.8	144.0	130.7	134.3	142.1	141.7
71°	155.0	137.8	125.3	129.6	137.0	136.2
71.5°	147.6	131.5	119.8	124.5	131.5	131.1
72°	140.1	125.3	113.9	119.4	126.4	126.0
72.5°	133.1	119.0	109.2	114.3	121.3	120.6
73°	126.0	112.3	104.1	109.6	116.3	115.5
73.5°	119.4	106.9	99.4	104.9	111.2	110.4
74°	112.7	101.0	95.1	100.6	106.1	105.7
74.5°	106.5	95.5	90.4	95.9	101.4	100.6
75°	100.2	90.4	86.1	91.2	96.7	95.9
75.5°	94.3	85.3	82.2	86.9	92.0	91.2
76°	88.5	80.6	77.9	82.6	87.3	86.9
76.5°	83.0	75.9	74.0	78.7	83.0	82.2
77°	77.9	71.2	70.1	74.4	78.7	77.9
77.5°	72.8	66.9	66.5	70.5	74.0	73.6
78°	67.7	62.6	63.0	66.5	70.1	69.3
78.5°	63.0	58.7	59.1	62.6	65.8	65.4
79°	58.3	54.8	56.0	58.7	61.8	61.1
79.5°	54.0	50.9	52.5	55.2	57.9	57.1
80°	49.3	47.4	48.9	51.3	54.0	53.2
80.5°	45.4	43.8	45.8	47.8	50.1	49.7
81°	41.5	40.3	42.7	44.2	46.6	45.8
81.5°	37.6	37.2	39.1	40.7	42.7	42.3
82°	34.4	34.1	36.0	37.6	39.1	38.8
82.5°	30.9	30.9	32.9	34.1	35.6	35.2
83°	27.8	27.8	30.1	30.9	32.1	31.7
83.5°	24.3	25.1	27.0	27.8	29.0	28.2
84°	21.1	22.3	24.3	24.7	25.4	25.1
84.5°	18.0	19.6	21.5	21.9	22.3	21.9
85°	15.3	17.2	18.8	19.2	19.2	18.8
85.5°	12.5	14.5	16.0	16.4	16.0	15.7
86°	10.2	12.1	13.3	13.7	13.7	13.3
86.5°	7.8	9.8	11.0	11.4	11.7	11.0
87°	5.9	7.4	8.6	9.0	9.4	8.6
87.5°	3.5	5.5	6.3	6.3	7.0	6.3
88°	2.0	3.1	3.5	3.9	5.1	4.3
88.5°	0.4	1.2	1.6	2.0	3.1	2.7



TEST NUMBER: P776471

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.4	0.0



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Peachtree City, GA 30269

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°	1704.3	1725.1	1796.3	1920.4	2083.6	2272.3	2446.5	2563.9	2621.8	2597.6	2492.7
22°	1682.0	1702.8	1775.6	1900.8	2066.0	2257.4	2434.7	2553.0	2611.7	2587.4	2480.9



44°	732.0	753.9	810.7	890.9	985.2	1101.9	1201.3	1228.3	1254.9	1245.9	1202.5
44.5°	712.0	733.9	789.1	868.2	957.1	1068.6	1164.5	1189.2	1214.6	1204.5	1164.1



66.5°	190.2	191.4	187.1	187.9	207.9	238.8	276.4	293.6	301.8	295.5	270.5
67°	184.0	185.1	181.2	180.5	199.2	229.4	265.4	281.8	289.3	283.4	259.5



89°	1.2	1.6	2.0	1.6	0.8	0.4	0.4	0.0	0.0	0.0	0.0
89.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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21.5°	2322.0	2138.0	1954.1	1810.8	1741.1	1704.3
22°	2307.5	2120.0	1934.1	1789.7	1719.2	1682.0



44°	1115.2	1017.7	905.8	815.0	766.4	732.0
44.5°	1081.1	988.0	881.1	793.1	746.5	712.0

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66.5°	233.7	207.1	182.4	178.1	189.8	190.2
67°	223.9	198.5	175.0	172.2	183.6	184.0

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89°	0.0	0.4	0.4	0.4	1.6	1.2
89.5°	0.0	0.0	0.0	0.0	0.4	0.4

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Scaled Data Report



(END OF REPORT)