

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: P776407

Luminaire Tested: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776407  
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-HCD6TRMW-4000lm-3500K  
Description: 6 INCH ROUND MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

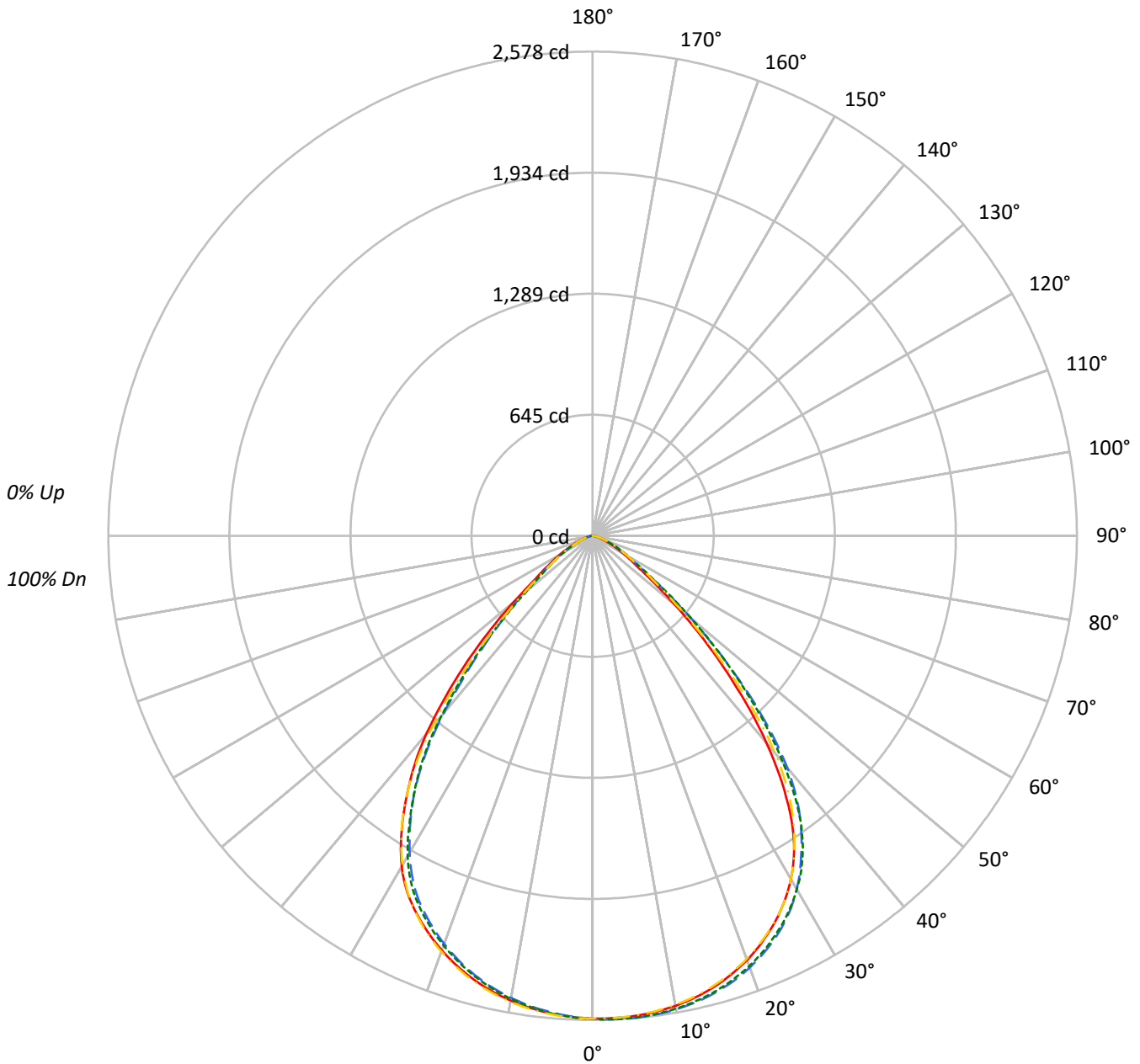
Lumens per Lamp: N/A  
Luminaire Lumens: 4297.1 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.18  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 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					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	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°	140987	140987	140987	140987
5°	141244	141745	140479	140391
10°	141458	142321	139888	139359
15°	141227	142600	138809	137776
20°	140228	142200	136984	135403
25°	137990	140778	134191	131929
30°	133666	137641	128659	124658
35°	123440	130199	116312	110436
40°	103158	112826	98578	89618
45°	75954	86986	72806	63503
50°	48740	58642	46847	39180
55°	29132	35363	30613	26551
60°	20525	24055	22180	19308
65°	14022	17071	15618	13815
70°	9617	12358	10899	10002
75°	6651	9171	7752	7244
80°	4514	7040	5525	5146
85°	2013	5472	3271	3019

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 89606 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	243.5	5.7
10°-20°	696.0	16.2
20°-30°	1033.4	24.0
30°-40°	1108.9	25.8
40°-50°	743.2	17.3
50°-60°	302.5	7.0
60°-70°	120.8	2.8
70°-80°	41.3	1.0
80°-90°	7.5	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°	1972.9	45.9
0°-40°	3081.8	71.7
0°-60°	4127.4	96.1
0°-90°	4297.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4297.1	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2572	2572	2572	2572	2572	
5°	2567	2576	2553	2551	2567	244
15°	2488	2513	2446	2428	2488	702
25°	2281	2327	2218	2181	2281	1048
35°	1844	1946	1738	1650	1844	1135
45°	980	1122	939	819	980	756
55°	305	370	320	278	305	294
65°	108	132	120	106	108	112
75°	31	43	37	34	31	35
85°	3	9	5	5	3	5
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°	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8
0.5°	2570.6	2571.8	2573.4	2574.6	2575.0	2574.6	2571.4	2569.1	2569.4	2569.4	2570.6
1°	2571.4	2573.0	2574.6	2575.8	2576.2	2575.4	2571.4	2568.7	2568.3	2567.9	2568.7
1.5°	2571.4	2573.8	2575.8	2577.0	2576.6	2575.4	2571.4	2567.9	2567.5	2565.9	2566.7
2°	2571.0	2574.2	2576.6	2577.8	2577.0	2575.8	2571.0	2567.1	2565.9	2563.9	2564.3
2.5°	2570.6	2574.6	2577.0	2578.2	2577.4	2575.8	2570.6	2565.9	2564.3	2561.9	2561.9
3°	2570.2	2574.6	2577.4	2578.6	2577.4	2575.4	2569.8	2564.7	2562.7	2559.5	2559.5
3.5°	2569.8	2574.6	2577.8	2578.6	2577.4	2575.0	2568.7	2563.1	2560.3	2556.7	2556.3
4°	2569.1	2574.6	2577.4	2578.6	2577.0	2574.2	2567.5	2561.1	2557.9	2553.9	2553.5
4.5°	2567.9	2573.8	2577.4	2578.6	2576.6	2573.4	2566.3	2559.5	2555.5	2550.8	2550.4
5°	2566.7	2573.4	2577.0	2577.8	2575.8	2572.2	2564.3	2557.1	2552.8	2547.6	2546.8
5.5°	2565.5	2572.2	2576.2	2577.4	2575.0	2570.6	2562.7	2554.7	2550.0	2544.0	2542.8
6°	2563.5	2571.4	2575.4	2576.6	2573.8	2569.1	2560.7	2552.0	2546.8	2540.4	2539.2
6.5°	2561.5	2569.8	2574.2	2575.4	2572.2	2567.5	2558.3	2549.2	2543.6	2536.5	2534.9
7°	2559.5	2568.7	2573.0	2574.2	2571.0	2565.5	2555.5	2546.0	2540.0	2532.1	2530.5
7.5°	2557.1	2566.7	2571.4	2572.6	2569.1	2563.1	2553.2	2542.8	2536.1	2527.7	2525.7
8°	2554.3	2564.7	2569.8	2571.0	2567.1	2560.7	2550.0	2539.2	2532.1	2522.9	2521.0
8.5°	2551.6	2562.7	2567.9	2569.1	2565.1	2558.3	2546.8	2535.3	2527.3	2518.2	2515.8
9°	2548.0	2560.3	2565.9	2567.1	2562.3	2555.1	2543.6	2531.3	2522.9	2513.0	2509.8
9.5°	2544.8	2557.5	2563.1	2564.7	2559.5	2552.4	2539.6	2526.9	2518.2	2507.4	2504.3
10°	2541.2	2554.7	2560.7	2561.9	2556.7	2549.2	2535.7	2522.5	2513.0	2501.5	2498.7
10.5°	2537.3	2551.2	2557.5	2559.1	2553.2	2545.2	2531.7	2517.4	2507.8	2495.5	2492.3
11°	2532.9	2548.0	2554.3	2555.9	2550.0	2541.6	2527.3	2512.6	2501.9	2489.6	2485.6
11.5°	2528.5	2544.0	2550.8	2552.8	2546.0	2537.3	2522.5	2507.0	2495.9	2482.8	2478.8
12°	2523.3	2540.0	2547.2	2548.8	2542.4	2532.5	2517.4	2501.5	2489.6	2475.7	2471.7
12.5°	2518.2	2535.3	2543.2	2544.8	2538.0	2528.1	2512.2	2495.5	2483.2	2468.5	2464.1
13°	2513.0	2530.9	2539.2	2540.8	2533.3	2522.9	2506.7	2489.2	2476.0	2460.9	2456.6
13.5°	2507.4	2526.1	2534.5	2536.1	2528.5	2517.8	2500.7	2482.8	2468.9	2453.0	2448.2
14°	2501.5	2521.4	2529.7	2531.3	2523.7	2512.2	2494.7	2475.7	2461.7	2444.7	2439.5
14.5°	2495.1	2515.4	2524.5	2526.5	2518.2	2506.3	2488.0	2468.5	2453.8	2436.3	2430.7
15°	2488.4	2509.8	2519.0	2521.4	2512.6	2500.3	2481.2	2460.9	2445.8	2427.6	2421.6
15.5°	2481.6	2503.5	2513.0	2515.8	2506.3	2493.9	2474.5	2453.8	2437.1	2418.0	2412.1
16°	2474.1	2497.1	2507.0	2509.4	2499.9	2487.2	2467.3	2445.4	2428.8	2408.5	2402.1
16.5°	2466.5	2490.4	2500.7	2503.1	2493.5	2480.0	2459.8	2437.1	2419.6	2398.9	2392.2
17°	2458.2	2483.6	2494.3	2496.7	2486.4	2472.9	2451.8	2428.4	2410.1	2388.6	2381.9
17.5°	2450.2	2476.0	2487.2	2489.6	2479.2	2464.9	2443.5	2419.6	2400.5	2377.9	2370.7
18°	2441.5	2468.1	2479.6	2482.4	2471.3	2457.0	2434.7	2410.1	2390.6	2367.2	2359.6
18.5°	2432.3	2460.2	2472.1	2474.5	2463.3	2448.6	2425.6	2400.5	2380.7	2356.0	2348.1
19°	2423.2	2451.4	2463.7	2466.5	2455.0	2439.9	2416.4	2390.6	2369.9	2344.9	2336.2
19.5°	2413.7	2442.7	2455.4	2458.2	2446.6	2430.7	2406.9	2380.7	2359.2	2333.0	2323.8
20°	2403.7	2433.5	2446.6	2449.8	2437.5	2421.2	2397.0	2369.9	2348.1	2321.0	2311.5
20.5°	2393.4	2424.0	2437.1	2440.7	2428.4	2411.7	2386.6	2359.2	2336.5	2307.9	2298.8
21°	2382.3	2414.0	2428.0	2431.1	2418.4	2401.3	2375.9	2348.1	2324.6	2295.6	2285.3



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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°	2347.7	2381.9	2396.6	2400.9	2387.4	2369.1	2342.1	2312.3	2287.7	2254.7	2243.5
23°	2335.0	2370.3	2385.8	2389.8	2375.9	2357.2	2329.8	2300.0	2274.1	2240.4	2228.8
23.5°	2321.8	2358.4	2373.9	2378.3	2364.4	2344.9	2317.1	2287.3	2261.0	2226.1	2213.7
24°	2308.7	2346.1	2362.4	2366.8	2352.4	2332.6	2304.4	2273.8	2247.1	2211.4	2198.2
24.5°	2295.2	2333.0	2349.3	2354.4	2340.1	2320.3	2291.6	2260.2	2232.8	2196.3	2182.7
25°	2281.3	2319.9	2336.9	2342.1	2327.4	2307.1	2278.1	2246.3	2218.5	2180.8	2166.8
25.5°	2266.6	2306.7	2323.4	2328.6	2314.3	2293.6	2264.2	2232.4	2203.8	2164.5	2150.1
26°	2251.9	2292.8	2309.9	2315.5	2300.8	2280.1	2250.3	2217.7	2188.3	2147.4	2132.3
26.5°	2236.4	2278.1	2294.8	2301.6	2286.9	2265.4	2235.2	2202.6	2172.4	2128.7	2113.2
27°	2220.9	2262.6	2280.5	2286.9	2272.2	2250.7	2219.7	2186.3	2155.7	2109.2	2092.9
27.5°	2203.4	2247.1	2264.6	2271.8	2257.1	2235.6	2203.4	2169.2	2138.2	2089.3	2071.5
28°	2187.1	2230.4	2247.9	2255.9	2241.6	2219.7	2186.3	2151.3	2119.1	2068.3	2048.8
28.5°	2168.4	2212.9	2229.6	2239.2	2226.5	2203.4	2168.8	2133.1	2099.3	2046.4	2025.4
29°	2150.5	2194.7	2212.1	2221.7	2209.4	2186.7	2150.1	2113.2	2078.6	2022.2	1999.9
29.5°	2131.1	2176.0	2193.1	2203.4	2192.3	2168.8	2131.1	2092.9	2056.4	1997.9	1974.1
30°	2111.6	2156.5	2173.6	2184.7	2174.4	2150.9	2110.4	2071.1	2032.5	1972.9	1947.5
30.5°	2089.7	2135.8	2152.5	2165.3	2156.5	2131.1	2089.3	2048.0	2008.3	1946.7	1920.4
31°	2068.7	2114.4	2131.9	2145.0	2137.0	2111.2	2067.9	2024.6	1982.0	1918.8	1891.8
31.5°	2045.2	2092.5	2109.6	2123.1	2116.8	2090.5	2044.8	1999.9	1955.0	1890.2	1864.4
32°	2021.0	2069.1	2086.2	2101.7	2096.1	2068.3	2021.8	1973.3	1926.8	1861.2	1835.4
32.5°	1995.1	2044.8	2062.7	2078.2	2073.8	2046.0	1997.1	1946.3	1897.0	1830.6	1806.4
33°	1969.3	2019.8	2038.5	2054.8	2050.8	2022.6	1972.1	1918.0	1866.8	1799.6	1775.8
33.5°	1940.7	1994.7	2013.8	2030.1	2026.5	1997.5	1946.7	1889.4	1835.4	1767.4	1746.0
34°	1910.1	1968.1	1989.2	2004.7	2001.5	1972.9	1920.4	1859.2	1803.6	1733.6	1713.0
34.5°	1877.5	1941.9	1963.4	1979.2	1974.1	1944.7	1893.4	1827.4	1771.4	1700.2	1681.6
35°	1844.5	1912.9	1936.7	1951.8	1945.5	1917.2	1864.8	1796.0	1738.0	1666.1	1647.4
35.5°	1809.9	1884.3	1909.7	1924.4	1916.1	1888.2	1836.2	1765.4	1705.8	1631.1	1612.4
36°	1772.6	1854.1	1882.7	1896.2	1884.7	1859.2	1806.0	1732.0	1672.4	1595.3	1575.1
36.5°	1734.0	1823.9	1853.3	1867.6	1851.3	1827.0	1774.2	1700.2	1639.0	1558.8	1537.7
37°	1695.1	1790.9	1823.9	1837.4	1816.3	1794.0	1740.4	1666.5	1604.1	1521.8	1497.6
37.5°	1654.5	1757.1	1791.7	1805.2	1779.3	1758.7	1705.8	1634.3	1569.5	1485.2	1456.6
38°	1613.2	1720.9	1759.9	1772.6	1740.4	1723.7	1670.0	1598.9	1534.1	1444.7	1415.3
38.5°	1571.1	1684.3	1725.3	1737.6	1701.0	1684.3	1633.1	1565.1	1498.0	1403.8	1372.8
39°	1529.0	1645.4	1689.1	1701.8	1661.3	1644.6	1594.5	1527.8	1460.2	1361.6	1327.1
39.5°	1485.6	1603.7	1651.0	1663.7	1619.6	1602.5	1554.4	1490.8	1419.7	1320.3	1281.3
40°	1441.5	1559.6	1612.0	1623.1	1576.6	1558.4	1512.7	1449.5	1377.5	1274.2	1234.1
40.5°	1397.0	1514.2	1570.3	1580.2	1534.9	1511.9	1468.9	1408.1	1333.4	1229.3	1186.0
41°	1351.3	1467.7	1526.2	1535.3	1491.6	1465.4	1424.0	1363.6	1288.1	1185.2	1138.7
41.5°	1304.8	1420.8	1482.5	1488.8	1448.3	1418.5	1376.7	1319.5	1243.2	1141.0	1090.6
42°	1257.1	1373.2	1435.9	1440.7	1403.0	1370.4	1327.4	1271.4	1197.1	1094.9	1045.7
42.5°	1209.0	1327.1	1389.1	1393.0	1358.4	1321.1	1279.8	1224.9	1153.8	1051.6	1001.9
43°	1161.3	1280.6	1339.4	1346.1	1312.7	1274.6	1231.7	1176.8	1110.4	1007.1	959.0
43.5°	1114.8	1234.4	1291.3	1298.4	1264.3	1225.3	1184.0	1129.5	1067.5	964.6	916.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	979.7	1094.2	1142.2	1155.8	1122.0	1080.6	1038.5	992.4	939.1	838.2	797.3
45.5°	936.4	1047.3	1091.4	1108.9	1074.7	1033.7	991.2	947.5	896.6	798.9	760.3
46°	892.3	1001.2	1040.9	1062.4	1030.6	987.2	943.1	903.0	854.9	760.3	724.5
46.5°	848.1	955.4	992.8	1016.3	986.0	942.7	897.4	858.5	813.2	723.7	689.2
47°	804.4	908.5	944.3	969.0	941.9	899.0	851.3	813.2	772.2	686.4	656.2
47.5°	763.1	864.0	897.4	922.5	897.0	856.5	808.0	770.2	732.9	652.6	624.4
48°	722.1	819.5	851.3	877.5	853.3	815.5	765.5	728.5	694.3	619.2	594.2
48.5°	682.0	776.2	808.0	833.0	810.8	776.2	725.7	688.0	657.0	587.4	564.0
49°	643.9	733.7	765.1	788.9	769.0	736.5	686.4	648.6	618.8	556.4	536.1
49.5°	607.7	691.5	723.7	747.2	727.7	697.5	649.4	611.3	583.0	527.0	509.1
50°	571.5	651.0	682.0	705.1	687.6	660.1	612.9	576.3	549.3	499.2	483.3
50.5°	537.3	611.7	643.5	664.1	648.2	623.6	579.5	542.9	515.9	473.0	458.6
51°	504.4	573.5	605.7	623.6	611.7	588.6	547.3	511.5	484.9	448.3	435.2
51.5°	473.0	536.9	569.5	586.6	575.5	555.2	517.5	482.5	456.3	424.5	412.5
52°	443.1	502.8	534.6	550.5	541.7	521.8	488.5	454.7	430.4	401.8	391.5
52.5°	414.9	471.0	501.6	515.5	507.5	490.4	461.4	429.2	406.2	380.7	371.6
53°	388.3	441.2	470.2	482.1	475.7	461.8	435.6	406.2	385.5	361.7	354.5
53.5°	364.5	413.3	440.4	451.9	445.5	434.4	411.7	384.7	366.4	345.0	337.0
54°	342.2	387.1	412.9	423.3	416.9	408.6	389.9	365.2	350.9	327.9	319.9
54.5°	322.7	363.7	385.9	396.6	390.3	384.7	369.2	349.3	335.4	311.2	302.8
55°	304.8	342.2	361.3	372.0	370.0	365.2	351.7	333.8	320.3	294.5	285.4
55.5°	288.1	322.7	339.0	349.7	350.1	346.2	334.6	318.0	304.8	280.2	271.5
56°	273.4	304.0	318.3	329.1	329.9	327.1	317.2	302.1	289.3	267.1	258.7
56.5°	260.3	287.0	300.1	310.0	309.6	308.0	299.7	286.2	276.2	254.8	247.6
57°	249.2	271.8	283.4	292.5	289.7	288.9	282.6	273.0	263.9	244.8	237.7
57.5°	238.5	258.7	268.3	276.6	275.0	274.6	268.7	260.3	252.4	234.5	227.7
58°	228.1	247.6	256.0	262.7	261.5	261.1	256.3	249.6	242.4	224.6	217.8
58.5°	217.8	236.9	245.2	251.2	250.8	250.4	246.0	239.7	232.1	214.6	207.5
59°	207.1	226.5	234.9	240.8	240.1	240.1	235.7	229.3	222.2	204.7	197.9
59.5°	197.1	215.8	224.2	230.5	229.7	229.7	225.7	219.0	211.8	195.1	188.8
60°	187.2	205.5	213.4	219.8	219.4	219.0	215.0	209.5	202.3	186.0	180.0
60.5°	177.3	195.1	203.1	209.5	208.7	208.7	205.1	199.5	193.2	177.3	171.3
61°	168.1	185.6	193.2	199.1	198.7	198.7	195.5	190.4	184.0	168.9	163.0
61.5°	159.4	176.1	183.6	189.2	188.4	189.2	186.0	181.2	174.9	161.0	155.4
62°	151.0	167.3	174.1	179.6	179.2	179.6	177.3	172.5	166.1	153.0	147.8
62.5°	142.7	159.0	165.3	170.5	170.1	170.9	168.5	164.1	157.8	145.5	140.7
63°	135.5	150.6	157.0	161.8	161.8	162.2	160.2	156.2	149.8	137.9	133.5
63.5°	128.8	141.9	149.0	153.8	153.4	154.2	152.2	148.6	141.9	130.8	127.2
64°	121.6	135.1	142.3	145.9	145.9	146.3	144.7	141.5	134.3	124.0	120.8
64.5°	114.9	128.4	135.1	139.1	138.7	139.1	137.5	133.9	127.2	117.6	114.9
65°	108.1	121.6	128.4	132.3	131.6	132.3	130.8	127.2	120.4	111.7	108.9
65.5°	101.7	114.9	121.6	125.6	124.8	125.6	124.0	120.8	114.1	105.7	103.7
66°	96.2	108.5	114.9	119.2	118.4	119.2	118.0	114.5	107.7	99.8	98.2





TEST NUMBER: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	80.7	91.8	97.8	100.9	100.9	101.7	100.9	97.4	91.0	84.7	83.9
68°	76.3	87.0	92.6	95.8	95.8	96.6	95.8	92.2	85.8	79.9	79.5
68.5°	71.5	81.9	87.4	90.6	90.6	91.4	90.6	87.4	81.1	75.5	75.1
69°	67.6	77.5	83.1	85.8	85.8	86.6	86.2	82.7	76.7	71.1	71.1
69.5°	63.6	73.1	78.3	81.1	81.5	81.9	81.5	77.9	72.3	67.2	67.2
70°	60.0	68.8	74.3	77.1	77.1	77.9	77.1	73.9	68.0	63.6	63.6
70.5°	56.4	65.2	69.9	72.7	72.7	73.5	73.1	69.6	64.0	59.6	60.0
71°	52.9	61.2	66.4	68.8	69.2	69.6	69.2	66.0	60.4	56.4	56.8
71.5°	49.7	57.6	62.8	65.2	65.2	66.0	65.6	62.0	56.8	52.9	53.7
72°	46.5	54.4	59.2	61.6	61.6	62.4	62.0	58.4	53.7	49.7	50.5
72.5°	43.7	51.3	55.6	58.0	58.0	58.8	58.4	55.2	50.5	46.9	47.7
73°	40.9	48.1	52.5	54.8	54.8	55.6	55.2	51.7	47.3	44.1	44.9
73.5°	38.6	44.9	49.7	51.7	52.1	52.5	52.1	48.9	44.5	41.3	42.1
74°	36.2	42.1	46.5	48.9	48.9	49.7	48.9	45.7	41.7	38.6	39.7
74.5°	33.8	39.7	43.7	46.1	46.1	46.5	46.1	42.9	38.9	36.2	37.0
75°	31.4	37.4	41.3	43.3	43.3	44.1	43.3	40.5	36.6	34.2	34.6
75.5°	29.4	35.0	38.6	40.5	40.9	41.3	40.9	37.8	34.2	31.8	32.6
76°	27.4	32.6	36.2	38.2	38.6	38.9	38.2	35.4	32.2	29.8	30.6
76.5°	25.4	30.2	34.2	35.8	36.2	36.6	35.8	33.4	30.2	27.4	28.6
77°	23.4	28.2	31.8	33.8	33.8	34.2	33.8	31.4	27.8	25.4	26.6
77.5°	21.9	26.2	29.8	31.4	31.8	32.2	31.8	29.0	25.8	23.4	24.6
78°	20.3	24.2	27.8	29.4	29.8	30.2	29.8	27.0	23.8	21.9	22.7
78.5°	18.7	22.7	25.8	27.4	27.8	28.2	27.4	25.0	22.3	20.3	21.1
79°	17.1	21.1	23.8	25.8	25.8	26.2	25.4	23.1	20.7	18.7	19.5
79.5°	15.5	19.5	22.3	23.8	23.8	24.2	23.8	21.5	19.1	17.1	17.9
80°	14.3	17.9	20.7	22.3	22.3	22.7	21.9	19.5	17.5	15.5	16.3
80.5°	13.1	16.3	19.1	20.7	20.7	21.1	20.3	17.9	15.9	14.3	15.1
81°	11.9	14.7	17.5	19.1	19.1	19.5	18.7	16.7	14.7	12.7	13.5
81.5°	10.3	13.5	15.9	17.5	17.5	17.9	17.5	15.1	13.1	11.5	12.3
82°	9.5	12.3	14.7	16.3	16.3	16.3	15.9	13.5	11.9	10.3	11.1
82.5°	8.3	10.7	13.5	14.7	14.7	15.1	14.7	12.3	10.7	9.1	9.9
83°	7.2	9.5	12.3	13.5	13.5	13.9	13.1	11.1	9.5	7.9	8.7
83.5°	6.4	8.3	11.1	12.3	12.3	12.7	11.9	9.9	8.3	6.8	7.6
84°	5.2	7.6	9.5	11.1	11.1	11.5	10.7	8.7	7.2	5.6	6.8
84.5°	4.4	6.4	8.7	9.9	9.9	10.3	9.5	7.6	6.4	4.8	6.0
85°	3.2	5.2	7.6	8.7	8.7	9.1	8.3	6.4	5.2	3.6	4.8
85.5°	2.4	4.4	6.8	7.9	7.9	7.9	7.6	5.6	4.4	3.2	4.0
86°	2.0	3.6	5.6	6.8	6.8	7.2	6.4	4.8	3.2	2.4	3.2
86.5°	1.6	2.8	4.8	6.0	6.0	6.0	5.6	4.0	2.8	2.0	2.4
87°	1.2	2.4	4.0	4.8	4.8	5.2	4.8	3.2	2.0	1.6	1.6
87.5°	0.8	2.0	3.2	4.0	4.0	4.0	4.0	2.8	1.6	1.2	1.2
88°	0.4	1.2	2.4	3.2	3.2	3.2	2.8	2.0	1.2	0.4	0.4
88.5°	0.0	0.8	1.6	2.4	2.4	2.4	2.0	1.6	0.8	0.0	0.0



TEST NUMBER: P776407  
CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-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: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2571.8	2571.8	2571.8	2571.8	2571.8	2571.8
0.5°	2571.4	2572.6	2573.0	2570.6	2569.4	2570.6
1°	2569.8	2571.0	2571.8	2570.2	2569.4	2571.4
1.5°	2567.9	2569.1	2570.6	2569.4	2569.1	2571.4
2°	2565.5	2567.5	2568.7	2568.3	2568.3	2571.0
2.5°	2563.1	2565.1	2567.1	2567.1	2567.5	2570.6
3°	2560.3	2562.7	2565.1	2565.5	2566.7	2570.2
3.5°	2557.5	2560.3	2562.7	2563.9	2565.5	2569.8
4°	2554.7	2557.1	2560.3	2561.9	2564.3	2569.1
4.5°	2551.2	2554.3	2557.5	2559.5	2562.7	2567.9
5°	2547.6	2551.2	2554.3	2557.1	2560.7	2566.7
5.5°	2543.6	2547.2	2551.2	2554.7	2558.7	2565.5
6°	2539.6	2543.6	2547.6	2551.6	2556.3	2563.5
6.5°	2535.7	2539.6	2544.0	2548.8	2553.9	2561.5
7°	2530.5	2534.9	2540.0	2545.2	2550.8	2559.5
7.5°	2526.1	2530.5	2536.1	2541.6	2548.0	2557.1
8°	2521.0	2525.3	2531.7	2537.7	2544.8	2554.3
8.5°	2515.8	2520.6	2526.9	2533.7	2541.6	2551.6
9°	2510.2	2515.0	2521.8	2529.3	2537.7	2548.0
9.5°	2504.3	2509.4	2516.6	2524.5	2533.7	2544.8
10°	2498.3	2503.5	2511.0	2519.8	2529.3	2541.2
10.5°	2491.9	2497.5	2505.5	2514.2	2524.9	2537.3
11°	2484.8	2490.8	2499.1	2508.6	2520.2	2532.9
11.5°	2478.0	2484.0	2492.7	2502.7	2515.0	2528.5
12°	2470.5	2476.8	2485.6	2496.7	2509.4	2523.3
12.5°	2463.3	2469.3	2478.8	2490.4	2503.9	2518.2
13°	2455.0	2461.7	2471.3	2483.6	2497.9	2513.0
13.5°	2446.6	2453.8	2463.7	2476.4	2491.5	2507.4
14°	2437.9	2445.4	2455.8	2468.9	2484.8	2501.5
14.5°	2429.2	2436.3	2447.4	2461.3	2478.0	2495.1
15°	2420.0	2427.6	2439.1	2453.4	2470.9	2488.4
15.5°	2410.5	2418.4	2429.9	2445.0	2462.9	2481.6
16°	2400.5	2408.5	2420.4	2436.3	2455.4	2474.1
16.5°	2390.6	2398.9	2410.9	2427.6	2447.0	2466.5
17°	2379.9	2388.6	2401.3	2418.0	2438.3	2458.2
17.5°	2369.5	2377.9	2391.0	2408.5	2429.2	2450.2
18°	2357.6	2367.2	2380.7	2398.9	2420.0	2441.5
18.5°	2346.5	2356.0	2369.9	2388.2	2410.1	2432.3
19°	2334.6	2344.5	2358.8	2377.5	2400.1	2423.2
19.5°	2322.2	2333.0	2347.3	2366.8	2390.2	2413.7
20°	2309.5	2321.0	2335.8	2355.6	2379.5	2403.7
20.5°	2296.8	2308.7	2323.8	2344.1	2368.3	2393.4
21°	2283.7	2296.0	2311.1	2331.8	2356.8	2382.3



TEST NUMBER: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2242.0	2255.9	2271.8	2293.6	2320.3	2347.7
23°	2227.3	2241.6	2257.9	2280.1	2306.7	2335.0
23.5°	2212.1	2226.5	2243.9	2266.2	2293.2	2321.8
24°	2197.0	2211.8	2228.8	2251.5	2279.3	2308.7
24.5°	2181.5	2196.6	2214.1	2236.8	2265.0	2295.2
25°	2165.6	2181.1	2198.6	2221.7	2250.3	2281.3
25.5°	2149.0	2164.9	2183.1	2206.2	2235.2	2266.6
26°	2130.7	2148.2	2165.6	2189.5	2219.7	2251.9
26.5°	2112.0	2129.9	2147.8	2171.6	2203.8	2236.4
27°	2091.7	2111.2	2128.3	2153.3	2187.1	2220.9
27.5°	2070.3	2090.1	2108.4	2134.3	2169.2	2203.4
28°	2048.0	2069.1	2087.4	2113.2	2151.3	2187.1
28.5°	2025.0	2045.2	2065.1	2092.5	2131.9	2168.4
29°	2000.3	2021.4	2042.0	2071.1	2112.0	2150.5
29.5°	1975.3	1995.5	2017.8	2048.4	2091.3	2131.1
30°	1948.2	1969.3	1992.4	2024.2	2069.5	2111.6
30.5°	1920.4	1939.5	1965.7	2000.7	2047.2	2089.7
31°	1891.4	1911.3	1937.1	1975.3	2023.0	2068.7
31.5°	1862.4	1880.3	1908.5	1949.8	1998.3	2045.2
32°	1831.0	1848.1	1878.7	1922.4	1972.9	2021.0
32.5°	1799.2	1814.3	1848.1	1896.2	1946.3	1995.1
33°	1766.2	1783.7	1816.7	1868.4	1918.0	1969.3
33.5°	1732.0	1750.7	1784.1	1839.0	1889.8	1940.7
34°	1698.3	1717.3	1751.9	1807.2	1860.4	1910.1
34.5°	1663.7	1682.8	1718.5	1776.2	1829.0	1877.5
35°	1627.9	1650.2	1685.5	1743.2	1796.4	1844.5
35.5°	1592.1	1616.8	1652.6	1709.0	1763.0	1809.9
36°	1555.2	1582.6	1617.6	1670.8	1727.3	1772.6
36.5°	1518.2	1546.4	1583.0	1635.1	1689.9	1734.0
37°	1479.7	1509.5	1546.4	1596.1	1649.4	1695.1
37.5°	1440.3	1471.7	1507.9	1556.4	1608.8	1654.5
38°	1399.8	1431.6	1468.1	1514.2	1563.9	1613.2
38.5°	1356.9	1389.1	1426.8	1470.5	1520.2	1571.1
39°	1313.1	1344.5	1384.3	1424.4	1471.3	1529.0
39.5°	1268.6	1298.4	1338.2	1377.5	1424.0	1485.6
40°	1223.3	1252.3	1292.5	1329.0	1374.3	1441.5
40.5°	1178.8	1207.0	1244.4	1280.6	1326.3	1397.0
41°	1133.5	1162.5	1197.1	1231.3	1277.8	1351.3
41.5°	1088.2	1119.2	1149.8	1182.8	1228.9	1304.8
42°	1044.1	1076.3	1102.9	1134.3	1179.6	1257.1
42.5°	1000.0	1033.3	1056.0	1085.8	1132.7	1209.0
43°	956.2	991.2	1010.7	1036.5	1085.0	1161.3
43.5°	912.5	946.7	965.4	989.6	1038.1	1114.8

TEST NUMBER: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	790.5	819.1	831.4	852.1	903.8	979.7
45.5°	752.4	777.4	788.5	809.2	862.4	936.4
46°	715.4	737.6	746.0	767.9	821.9	892.3
46.5°	677.6	698.7	704.7	728.5	781.8	848.1
47°	643.1	660.5	665.3	688.8	742.4	804.4
47.5°	610.1	622.4	628.0	652.6	703.9	763.1
48°	579.1	586.2	591.8	617.2	666.1	722.1
48.5°	547.3	551.6	558.0	583.4	630.7	682.0
49°	518.7	519.1	525.8	551.6	595.0	643.9
49.5°	491.2	488.1	495.6	521.4	561.2	607.7
50°	465.4	459.4	467.4	492.0	527.8	571.5
50.5°	440.0	432.4	440.8	464.2	497.2	537.3
51°	417.7	409.0	416.1	438.8	467.4	504.4
51.5°	395.8	387.9	394.3	414.9	440.0	473.0
52°	375.2	368.8	374.0	392.3	414.5	443.1
52.5°	358.1	351.3	354.9	370.8	390.3	414.9
53°	341.4	335.0	337.8	350.9	367.6	388.3
53.5°	324.7	319.5	321.1	332.3	346.2	364.5
54°	307.6	305.2	306.0	314.8	326.7	342.2
54.5°	290.9	291.3	291.7	298.5	308.8	322.7
55°	276.6	277.8	277.8	283.4	292.5	304.8
55.5°	263.9	265.1	265.1	269.1	277.0	288.1
56°	252.4	253.6	253.6	256.7	263.1	273.4
56.5°	242.0	243.6	243.2	246.0	251.6	260.3
57°	232.1	233.3	233.3	235.7	241.2	249.2
57.5°	222.2	223.4	223.0	225.3	230.9	238.5
58°	212.2	213.4	213.0	215.0	220.6	228.1
58.5°	202.3	203.5	202.7	205.1	209.8	217.8
59°	193.2	194.0	193.6	195.1	199.5	207.1
59.5°	184.0	185.2	184.4	185.6	190.0	197.1
60°	174.9	176.1	175.3	176.9	180.8	187.2
60.5°	166.9	167.7	166.9	168.1	171.7	177.3
61°	159.0	159.8	158.6	159.8	163.0	168.1
61.5°	151.0	151.8	151.0	152.2	155.0	159.4
62°	143.9	144.7	143.5	144.7	147.5	151.0
62.5°	136.7	138.3	136.7	137.9	140.3	142.7
63°	130.0	131.9	130.4	131.6	133.5	135.5
63.5°	123.6	125.2	124.0	124.8	126.8	128.8
64°	117.6	118.8	117.6	118.4	120.0	121.6
64.5°	111.7	112.1	111.3	111.7	113.3	114.9
65°	106.1	106.5	105.7	106.1	107.3	108.1
65.5°	100.6	100.9	100.2	100.6	101.3	101.7
66°	95.4	95.8	95.0	95.4	95.8	96.2



TEST NUMBER: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	81.5	81.9	81.1	81.1	81.1	80.7
68°	77.1	77.5	76.7	77.1	76.3	76.3
68.5°	73.1	73.5	72.7	72.7	72.3	71.5
69°	69.2	69.6	68.8	69.2	68.0	67.6
69.5°	65.6	66.0	65.2	65.2	64.4	63.6
70°	62.0	62.4	61.6	61.6	60.4	60.0
70.5°	58.4	58.8	58.0	58.0	56.8	56.4
71°	55.2	55.6	54.8	54.8	53.7	52.9
71.5°	52.1	52.5	51.7	51.7	50.5	49.7
72°	49.3	49.3	48.9	48.9	47.3	46.5
72.5°	46.5	46.5	46.1	46.1	44.5	43.7
73°	43.7	43.7	43.3	43.3	41.7	40.9
73.5°	40.9	41.3	40.5	40.5	38.9	38.6
74°	38.6	38.6	38.2	38.2	36.6	36.2
74.5°	36.2	36.2	35.8	35.8	34.2	33.8
75°	34.2	34.2	33.8	33.4	32.2	31.4
75.5°	32.2	31.8	31.4	31.4	29.8	29.4
76°	30.2	29.8	29.4	29.0	27.8	27.4
76.5°	28.2	27.8	27.4	27.4	25.8	25.4
77°	26.2	26.2	25.8	25.4	23.8	23.4
77.5°	24.2	24.2	23.8	23.4	22.3	21.9
78°	22.3	22.7	22.3	21.9	20.3	20.3
78.5°	20.7	21.1	20.7	20.3	18.7	18.7
79°	19.1	19.5	19.1	18.7	17.5	17.1
79.5°	17.9	17.9	17.5	17.1	15.9	15.5
80°	16.3	16.3	16.3	15.5	14.3	14.3
80.5°	14.7	15.1	14.7	14.3	13.1	13.1
81°	13.5	13.9	13.5	13.1	11.9	11.9
81.5°	12.3	12.7	12.3	11.9	10.3	10.3
82°	11.1	11.5	11.1	10.7	9.1	9.5
82.5°	9.9	9.9	9.9	9.5	7.9	8.3
83°	8.7	9.1	8.7	8.3	6.8	7.2
83.5°	7.9	7.9	7.6	7.2	6.0	6.4
84°	6.8	6.8	6.8	6.4	5.2	5.2
84.5°	6.0	6.0	5.6	5.6	4.0	4.4
85°	4.8	4.8	4.8	4.8	3.6	3.2
85.5°	4.0	4.0	4.0	3.6	2.8	2.4
86°	3.2	3.2	3.2	2.8	2.4	2.0
86.5°	2.4	2.4	2.0	2.0	1.6	1.6
87°	1.2	1.6	1.2	1.2	1.2	1.2
87.5°	0.4	0.8	0.4	0.8	0.8	0.8
88°	0.0	0.0	0.0	0.0	0.4	0.4
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776407

CATALOG NUMBER: HCDJBL3040CSD-HCD6TRMW-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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21.5°	2371.1	2403.7	2417.6	2421.6	2408.5	2391.0	2365.2	2336.5	2312.7	2282.1	2271.8
22°	2359.6	2393.0	2407.7	2411.3	2398.2	2380.3	2353.6	2324.6	2300.4	2268.6	2257.9



44°	1069.1	1187.9	1241.2	1251.1	1216.2	1177.2	1134.7	1082.6	1025.0	920.5	876.0
44.5°	1024.2	1140.3	1191.9	1203.4	1168.1	1129.1	1085.0	1037.7	981.7	879.5	836.6



66.5°	90.6	102.9	108.5	112.5	112.1	112.9	112.1	108.5	101.7	94.6	93.4
67°	85.4	97.0	102.9	106.5	106.5	107.3	106.1	102.9	96.2	89.4	88.6



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



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21.5°	2270.2	2282.9	2298.4	2319.5	2344.9	2371.1
22°	2256.3	2269.4	2284.9	2306.7	2333.0	2359.6



44°	871.2	903.4	920.5	943.5	992.0	1069.1
44.5°	830.6	861.3	875.2	897.8	947.5	1024.2

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66.5°	90.6	91.0	90.2	90.6	90.6	90.6
67°	85.8	86.2	85.4	85.8	85.8	85.4

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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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Scaled Data Report



(END OF REPORT)