

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: P776533

Luminaire Tested: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776533
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: HCDJBS3040CSD-HCD8TSQMW-4000lm-4000K
Description: 8 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

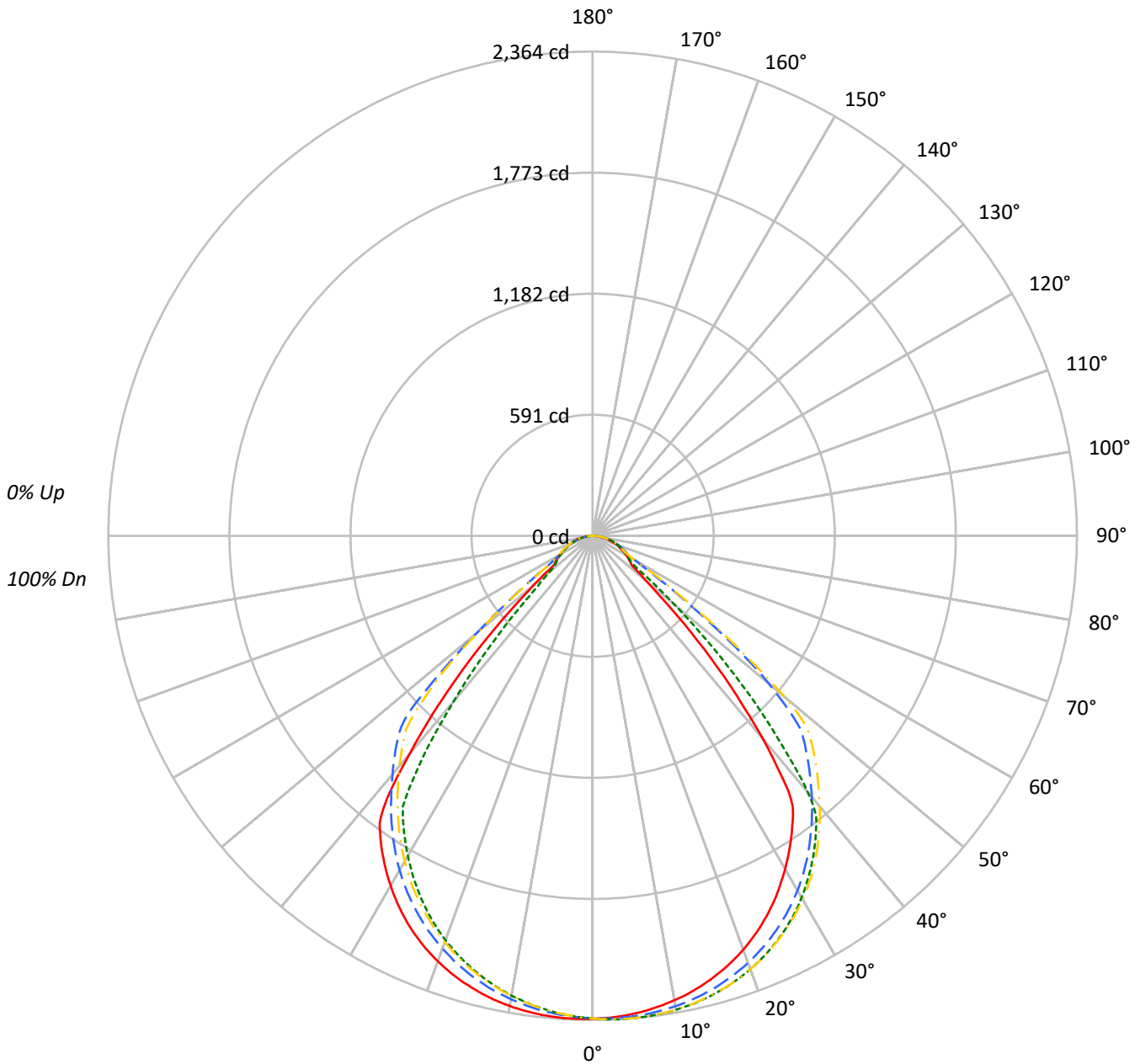
Lumens per Lamp: N/A
Luminaire Lumens: 4268.7 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.29
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): 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				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			100
1	111	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89			89
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	84	81	79			79
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70			70
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63			63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56			56
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51			51
7	73	62	54	49	72	61	54	49	60	53	48	58	52	48	57	52	48	46			46
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42			42
9	65	53	45	41	63	52	45	40	51	45	40	50	44	40	49	44	40	38			38
10	61	49	42	37	60	49	42	37	48	41	37	47	41	37	46	41	37	35			35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	56515	56515	56515	56515
5°	56362	56897	56702	56081
10°	56072	57202	56768	55504
15°	55599	57419	56689	54698
20°	54880	57460	56401	53604
25°	53714	57201	55782	52041
30°	52031	56503	54595	49955
35°	49830	55161	52839	47248
40°	40373	51169	43525	33148
45°	24589	35203	27620	18224
50°	12609	19204	14093	10292
55°	9415	9833	9176	8808
60°	9097	9371	8848	8479
65°	8800	9209	8573	8182
70°	8532	9093	8273	7824
75°	8097	9107	7912	7282
80°	7291	9238	7291	6283
85°	5200	9877	5750	3659

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 52019 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.0	5.2
10°-20°	637.4	14.9
20°-30°	953.0	22.3
30°-40°	1093.5	25.6
40°-50°	794.0	18.6
50°-60°	291.0	6.8
60°-70°	156.0	3.7
70°-80°	94.3	2.2
80°-90°	26.4	0.6
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°	1813.4	42.5
0°-40°	2906.9	68.1
0°-60°	3991.9	93.5
0°-90°	4268.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4268.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2357	2357	2357	2357	2357	
5°	2342	2364	2356	2330	2342	222
15°	2240	2313	2284	2203	2240	631
25°	2030	2162	2108	1967	2030	933
35°	1702	1884	1805	1614	1702	1039
45°	725	1038	814	537	725	572
55°	225	235	220	211	225	211
65°	155	162	151	144	155	154
75°	87	98	85	79	87	92
85°	19	36	21	13	19	23
90°	0	6	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°	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9
0.5°	2357.7	2358.1	2356.9	2356.5	2358.5	2358.5	2358.5	2359.3	2359.3	2358.1	2354.9
1°	2356.9	2357.7	2357.3	2357.7	2360.1	2359.7	2359.7	2360.1	2359.7	2357.7	2353.7
1.5°	2355.7	2357.3	2357.7	2358.5	2361.4	2360.9	2360.9	2360.9	2359.7	2357.3	2352.5
2°	2354.5	2356.5	2357.7	2358.9	2362.2	2362.2	2361.8	2361.4	2359.7	2356.9	2351.3
2.5°	2352.5	2355.7	2357.7	2359.7	2363.0	2363.0	2362.6	2361.4	2359.7	2356.1	2349.3
3°	2350.9	2354.5	2357.3	2360.1	2363.8	2363.8	2363.0	2361.4	2359.3	2355.3	2347.7
3.5°	2349.3	2353.3	2356.9	2360.1	2363.8	2364.2	2363.4	2361.8	2358.9	2354.1	2345.2
4°	2346.8	2351.7	2356.5	2360.1	2363.8	2364.2	2363.8	2361.4	2358.1	2352.5	2342.8
4.5°	2344.4	2350.1	2355.3	2359.3	2363.8	2364.2	2363.4	2360.9	2356.9	2350.9	2340.4
5°	2341.6	2348.1	2354.5	2358.9	2363.8	2364.2	2363.4	2360.1	2355.7	2348.9	2337.6
5.5°	2338.8	2346.0	2352.9	2358.1	2363.4	2363.4	2362.6	2359.3	2354.1	2346.4	2334.8
6°	2335.6	2343.6	2351.7	2357.3	2362.6	2363.0	2361.8	2358.1	2352.5	2344.4	2331.5
6.5°	2332.7	2340.8	2349.7	2356.1	2361.8	2362.2	2360.9	2356.9	2350.5	2342.0	2328.3
7°	2329.1	2338.0	2348.1	2354.9	2360.5	2361.4	2359.7	2355.3	2348.5	2339.2	2324.3
7.5°	2325.1	2335.2	2345.6	2353.3	2359.3	2360.5	2358.5	2353.7	2346.0	2336.4	2320.7
8°	2321.1	2331.9	2343.6	2351.7	2357.7	2358.9	2356.9	2351.7	2343.6	2333.2	2316.2
8.5°	2317.0	2328.3	2340.8	2349.3	2356.1	2357.3	2355.3	2349.7	2340.8	2329.5	2311.8
9°	2312.6	2324.7	2338.0	2347.3	2354.1	2355.7	2353.3	2347.3	2338.0	2325.9	2307.4
9.5°	2307.8	2320.7	2335.2	2344.8	2352.1	2353.3	2351.3	2344.8	2334.8	2321.9	2302.5
10°	2302.9	2316.2	2332.3	2342.4	2349.3	2351.3	2348.5	2341.6	2331.5	2317.8	2297.7
10.5°	2297.7	2311.8	2328.7	2339.6	2346.8	2348.9	2346.0	2338.4	2327.5	2313.8	2292.1
11°	2292.5	2307.4	2325.1	2336.4	2344.0	2346.4	2343.2	2335.2	2323.5	2309.0	2286.4
11.5°	2286.8	2302.5	2320.7	2333.2	2341.2	2343.2	2340.0	2331.5	2319.5	2304.6	2280.8
12°	2280.8	2297.3	2317.0	2329.5	2338.0	2340.0	2336.8	2327.9	2315.4	2299.3	2275.1
12.5°	2274.3	2292.1	2312.6	2325.9	2334.4	2336.8	2333.6	2324.3	2310.6	2293.7	2268.7
13°	2268.3	2286.0	2308.2	2321.9	2330.7	2333.2	2329.5	2319.9	2305.8	2288.0	2262.3
13.5°	2261.4	2280.4	2303.3	2317.8	2326.7	2329.5	2325.5	2315.4	2300.5	2282.4	2255.4
14°	2254.6	2273.9	2298.5	2313.4	2322.3	2325.1	2321.5	2310.6	2295.3	2276.4	2248.2
14.5°	2247.4	2267.9	2293.3	2309.0	2317.8	2321.1	2317.0	2305.8	2289.6	2270.3	2240.9
15°	2239.7	2261.0	2287.6	2303.7	2313.0	2316.6	2312.2	2300.5	2283.6	2263.5	2233.7
15.5°	2232.0	2254.2	2282.0	2298.5	2308.2	2311.4	2307.8	2295.3	2277.6	2257.0	2226.0
16°	2224.0	2246.5	2276.0	2293.3	2302.9	2306.6	2302.5	2289.6	2271.1	2249.8	2217.9
16.5°	2215.9	2239.7	2269.5	2287.6	2297.7	2301.3	2296.9	2283.6	2264.7	2242.5	2209.5
17°	2207.5	2232.0	2263.1	2281.6	2291.7	2295.7	2291.3	2277.6	2257.8	2235.3	2201.0
17.5°	2198.6	2224.0	2256.6	2275.5	2285.6	2290.1	2285.2	2271.1	2250.6	2227.6	2192.2
18°	2189.7	2215.9	2249.4	2269.1	2279.6	2284.0	2279.6	2263.9	2242.9	2219.6	2183.3
18.5°	2180.1	2207.5	2242.1	2262.7	2273.1	2277.6	2273.1	2257.4	2235.3	2211.1	2173.6
19°	2170.4	2198.6	2234.9	2255.4	2266.3	2271.1	2266.3	2249.8	2227.2	2202.6	2164.0
19.5°	2160.7	2189.3	2226.8	2248.2	2259.0	2264.3	2259.4	2242.9	2219.2	2193.8	2154.3
20°	2150.7	2180.1	2218.8	2240.9	2251.8	2257.4	2252.2	2234.5	2210.3	2184.9	2144.2
20.5°	2139.8	2170.4	2210.7	2233.3	2244.1	2249.8	2244.9	2226.8	2201.4	2175.6	2133.8
21°	2128.9	2160.7	2202.2	2225.2	2236.5	2242.5	2236.9	2218.3	2192.6	2165.6	2122.9



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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°	2094.3	2129.3	2174.4	2199.4	2210.7	2217.5	2212.3	2191.8	2163.6	2135.0	2089.8
23°	2082.2	2118.0	2164.8	2190.6	2201.8	2208.7	2203.8	2182.5	2153.1	2124.1	2078.2
23.5°	2069.7	2106.8	2155.1	2180.9	2192.2	2199.8	2194.6	2172.8	2142.2	2112.8	2066.1
24°	2056.8	2094.7	2144.6	2171.2	2182.9	2190.6	2184.9	2162.4	2131.7	2101.5	2054.0
24.5°	2043.9	2082.6	2134.2	2161.5	2172.8	2180.9	2175.6	2152.3	2120.1	2089.8	2041.1
25°	2030.2	2070.1	2123.3	2150.7	2162.0	2170.8	2165.6	2141.8	2108.4	2077.8	2028.6
25.5°	2016.5	2057.2	2112.4	2140.2	2151.9	2160.3	2155.5	2130.9	2096.7	2065.3	2015.3
26°	2002.8	2044.3	2100.7	2129.3	2140.6	2150.3	2145.0	2119.7	2084.2	2052.8	2002.0
26.5°	1988.3	2031.0	2089.4	2118.0	2129.3	2139.4	2134.2	2107.6	2071.3	2039.5	1988.3
27°	1973.8	2017.3	2077.8	2106.8	2117.6	2127.3	2123.3	2095.5	2058.0	2026.2	1974.2
27.5°	1958.1	2003.2	2065.3	2095.1	2105.6	2116.0	2112.0	2083.4	2044.7	2012.5	1960.1
28°	1943.2	1989.1	2052.4	2082.6	2093.1	2104.3	2100.3	2070.9	2031.0	1998.4	1946.0
28.5°	1926.7	1974.6	2039.9	2070.5	2080.2	2091.9	2088.2	2057.6	2016.9	1983.9	1930.7
29°	1911.8	1959.7	2026.6	2057.2	2068.1	2079.0	2076.2	2044.7	2002.0	1969.4	1915.8
29.5°	1894.9	1944.4	2013.3	2044.3	2053.6	2066.1	2063.7	2030.6	1987.5	1953.7	1900.1
30°	1879.2	1928.7	1999.6	2031.0	2040.7	2052.8	2050.4	2016.9	1971.8	1938.8	1884.8
30.5°	1861.8	1913.0	1985.9	2017.3	2025.4	2039.1	2037.5	2002.4	1956.9	1923.1	1868.3
31°	1845.7	1897.3	1971.4	2002.8	2012.1	2025.4	2023.8	1987.9	1941.2	1907.0	1852.2
31.5°	1828.4	1880.4	1956.5	1988.7	1996.0	2010.5	2010.1	1973.0	1925.5	1890.9	1835.7
32°	1811.5	1863.9	1941.6	1973.8	1980.7	1996.4	1995.6	1957.7	1909.4	1874.7	1818.7
32.5°	1793.4	1847.3	1926.3	1958.5	1965.4	1981.1	1981.1	1942.4	1892.9	1858.2	1801.0
33°	1776.5	1830.8	1910.2	1943.2	1950.1	1966.2	1966.2	1926.7	1875.9	1841.7	1783.7
33.5°	1758.3	1813.5	1894.9	1927.9	1933.6	1950.5	1950.9	1911.0	1859.0	1825.2	1766.0
34°	1740.2	1796.6	1878.4	1911.8	1917.0	1934.4	1935.2	1894.5	1841.7	1808.3	1747.9
34.5°	1720.5	1778.9	1861.8	1895.7	1900.5	1918.2	1919.5	1878.4	1823.2	1791.0	1729.7
35°	1702.3	1761.1	1844.9	1879.2	1884.4	1902.5	1903.3	1861.8	1805.1	1773.2	1711.2
35.5°	1683.4	1743.0	1828.0	1862.7	1866.3	1886.0	1886.4	1845.3	1786.5	1755.1	1692.7
36°	1663.7	1724.9	1810.3	1845.7	1849.0	1869.1	1869.5	1828.0	1767.6	1737.0	1673.7
36.5°	1643.1	1706.0	1793.0	1829.2	1830.4	1852.6	1852.2	1810.3	1746.6	1718.4	1654.4
37°	1608.5	1687.0	1775.2	1811.9	1811.9	1834.9	1834.9	1792.2	1716.0	1699.1	1635.5
37.5°	1567.0	1668.1	1757.1	1794.2	1793.0	1817.1	1816.7	1774.0	1677.8	1680.2	1615.7
38°	1511.4	1648.4	1739.0	1776.5	1773.6	1798.6	1799.0	1755.1	1630.2	1659.6	1596.4
38.5°	1455.8	1628.2	1720.1	1758.3	1751.9	1780.5	1780.5	1736.6	1574.2	1636.7	1577.5
39°	1401.8	1598.0	1701.5	1740.2	1720.9	1761.5	1762.4	1717.2	1515.0	1599.2	1558.1
39.5°	1347.0	1557.7	1683.0	1721.3	1682.6	1742.2	1743.4	1695.5	1453.0	1557.7	1538.8
40°	1289.8	1504.9	1664.1	1701.9	1634.7	1722.5	1724.1	1660.0	1390.5	1508.2	1519.9
40.5°	1230.2	1449.8	1645.1	1682.2	1580.3	1701.1	1704.7	1624.2	1331.3	1453.0	1501.3
41°	1169.4	1397.0	1625.8	1662.5	1518.6	1667.7	1686.2	1577.1	1274.5	1398.2	1482.4
41.5°	1109.4	1343.8	1606.9	1641.1	1456.2	1630.6	1666.9	1524.7	1216.5	1336.6	1463.5
42°	1052.2	1288.2	1587.5	1612.5	1393.4	1585.5	1647.9	1467.9	1158.1	1280.2	1444.1
42.5°	997.8	1230.2	1568.2	1575.4	1333.7	1531.9	1629.0	1408.3	1097.7	1225.4	1425.2
43°	941.8	1172.6	1549.3	1531.5	1275.7	1473.9	1609.7	1350.3	1038.1	1173.4	1405.9
43.5°	886.2	1114.6	1529.5	1482.0	1217.3	1412.7	1591.2	1293.9	978.9	1116.2	1386.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	725.1	946.6	1471.5	1311.6	1038.1	1237.1	1534.0	1125.9	814.5	950.7	1324.1
45.5°	673.9	893.5	1451.8	1254.8	977.7	1181.1	1514.2	1068.3	760.1	893.1	1291.5
46°	626.0	839.9	1431.6	1201.2	921.7	1123.9	1494.5	1011.1	708.6	841.9	1252.8
46.5°	578.9	785.5	1411.5	1147.6	866.9	1064.7	1474.7	953.1	657.4	789.1	1198.8
47°	532.9	732.7	1390.5	1092.5	812.1	1005.4	1454.6	898.3	608.7	741.6	1132.3
47.5°	491.4	682.4	1353.5	1036.9	758.1	947.4	1433.6	845.1	561.5	689.6	1065.9
48°	451.6	633.6	1314.8	981.3	704.5	893.1	1411.9	793.6	519.6	642.9	997.8
48.5°	416.1	586.9	1266.5	925.3	653.8	839.5	1378.5	740.8	478.2	595.4	932.1
49°	385.9	541.0	1218.9	873.7	604.6	785.5	1332.1	689.6	440.3	549.5	868.9
49.5°	360.1	498.3	1170.6	820.1	558.3	733.1	1281.0	640.1	404.4	508.0	806.5
50°	338.0	457.2	1123.9	771.8	514.8	680.8	1218.5	592.2	377.8	469.3	744.8
50.5°	319.4	419.7	1073.1	721.9	474.5	630.4	1152.1	547.0	351.7	431.0	686.4
51°	302.1	386.7	1014.3	672.3	435.9	582.5	1082.0	502.7	325.5	396.0	632.0
51.5°	284.8	360.1	954.7	622.4	400.8	536.6	1011.5	462.8	299.3	368.2	581.3
52°	267.9	336.8	892.3	577.2	373.0	493.5	943.0	425.4	273.1	340.4	532.1
52.5°	253.0	317.0	828.2	532.5	344.8	453.2	875.7	396.4	252.6	313.0	487.4
53°	242.1	298.9	766.2	491.4	317.0	415.3	813.7	367.4	238.1	285.2	446.7
53.5°	236.9	282.4	706.1	451.2	289.2	386.7	754.5	338.4	231.6	263.0	409.3
54°	232.4	265.5	649.4	415.7	268.3	358.1	696.5	309.4	227.2	243.3	381.1
54.5°	228.8	249.3	594.6	380.3	248.5	329.5	639.7	280.4	223.2	228.8	353.3
55°	225.2	236.5	546.2	349.7	235.2	300.9	585.3	259.8	219.5	222.4	325.9
55.5°	221.1	228.8	500.3	321.5	229.2	272.3	534.1	240.1	215.5	217.9	298.1
56°	217.5	224.4	455.6	296.1	225.2	251.0	486.6	224.8	211.9	214.3	270.7
56.5°	213.9	220.7	415.3	272.7	221.1	232.4	445.5	218.3	208.3	210.3	252.6
57°	210.3	216.7	379.5	251.4	217.1	221.1	411.7	213.9	204.6	206.6	237.3
57.5°	206.6	213.1	346.8	232.4	213.5	216.3	377.8	210.3	201.4	203.0	224.4
58°	203.4	209.5	317.8	220.3	209.9	212.7	343.6	206.2	197.8	199.4	213.9
58.5°	199.8	205.8	292.9	215.5	206.2	208.7	309.8	203.0	194.6	196.2	205.0
59°	196.6	202.2	270.7	211.5	202.6	205.0	276.3	199.4	190.9	192.5	197.4
59.5°	193.0	199.0	253.0	207.5	199.0	201.4	253.8	195.8	187.7	189.3	190.9
60°	189.7	195.4	238.1	203.8	195.4	197.8	236.1	192.5	184.5	186.1	185.3
60.5°	186.1	192.1	226.0	200.2	191.7	194.2	222.4	188.9	181.3	182.9	180.9
61°	182.9	188.9	215.9	196.6	188.5	190.5	210.3	185.7	178.0	179.7	177.2
61.5°	179.3	185.7	206.6	193.4	185.3	187.3	201.4	182.5	174.4	176.4	173.6
62°	176.0	182.1	199.0	189.7	182.1	184.1	193.4	179.3	171.2	173.2	169.6
62.5°	172.4	178.9	192.1	186.5	178.9	180.9	186.9	176.0	167.6	170.0	166.0
63°	168.8	175.6	186.9	182.9	175.2	177.6	180.9	172.8	164.4	166.4	162.3
63.5°	165.6	172.4	182.9	179.7	172.0	174.4	176.4	169.6	161.1	163.1	159.1
64°	161.9	169.2	178.9	176.4	168.8	171.2	172.4	166.4	157.5	159.5	155.5
64.5°	158.7	165.6	175.2	172.8	165.6	168.0	168.8	163.1	154.3	156.3	151.9
65°	155.1	162.3	171.6	169.6	162.3	164.8	165.2	159.9	151.1	153.1	148.2
65.5°	151.5	159.1	167.6	166.4	158.7	161.5	161.5	156.7	147.4	149.4	145.0
66°	148.2	155.5	163.9	163.1	155.5	158.3	157.9	153.1	144.2	146.2	141.4



TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	138.2	147.0	153.5	153.1	145.8	148.6	147.4	143.0	134.5	136.2	130.9
68°	134.9	143.4	149.9	149.4	142.6	145.4	143.8	139.8	131.3	132.5	127.3
68.5°	131.7	139.8	145.4	145.8	139.4	141.8	140.6	136.6	128.1	129.3	123.7
69°	128.5	135.8	142.2	142.6	136.2	138.6	137.0	132.9	124.9	125.7	120.4
69.5°	124.9	132.1	139.0	139.4	132.9	135.3	133.7	129.7	121.7	122.5	116.8
70°	121.7	128.9	135.3	136.6	129.7	132.1	130.1	126.5	118.0	119.2	113.2
70.5°	118.0	125.3	132.1	133.3	126.9	128.9	126.9	123.3	114.8	115.6	110.0
71°	114.8	122.1	128.5	129.7	123.7	125.7	123.3	119.6	111.6	112.4	106.3
71.5°	111.2	118.8	125.3	126.5	120.4	122.5	120.0	116.4	108.4	109.2	102.7
72°	108.0	115.2	121.7	123.3	117.2	119.2	116.4	113.2	105.1	105.5	99.5
72.5°	104.3	111.6	118.0	120.0	114.4	116.0	113.2	110.0	101.9	102.3	95.9
73°	101.1	108.4	114.4	116.4	111.2	112.8	109.6	106.3	98.7	99.1	92.6
73.5°	97.5	104.7	111.2	113.2	108.0	109.6	106.3	103.1	95.5	95.5	89.0
74°	94.3	101.5	107.6	110.0	104.7	106.3	103.1	99.9	92.2	92.2	85.4
74.5°	90.6	97.9	103.9	106.7	101.5	103.1	99.5	96.7	88.6	88.6	82.2
75°	87.4	94.7	100.7	103.5	98.3	99.9	96.3	93.1	85.4	85.4	78.6
75.5°	83.8	91.0	97.1	100.3	95.5	96.7	93.1	89.8	82.2	81.8	74.9
76°	80.2	87.4	93.5	96.7	92.2	93.5	89.4	86.2	79.0	78.1	71.7
76.5°	76.9	83.8	90.2	93.5	89.0	90.2	86.2	83.0	75.7	74.9	68.1
77°	73.3	80.6	86.6	90.2	85.8	87.0	83.0	79.8	72.1	71.7	64.9
77.5°	70.1	76.9	83.0	86.6	82.6	83.8	79.4	76.1	68.9	68.1	61.2
78°	66.5	73.3	79.8	83.4	79.4	80.6	76.1	72.9	65.7	64.9	58.0
78.5°	63.2	70.1	76.1	80.2	76.1	77.3	72.9	69.3	62.4	61.2	54.4
79°	59.6	66.5	72.9	76.5	73.3	74.1	69.3	66.1	59.2	58.0	51.2
79.5°	56.4	62.8	69.3	73.3	70.1	70.9	66.1	62.8	56.0	54.4	47.5
80°	52.8	59.6	65.7	70.1	66.9	67.3	62.8	59.2	52.8	51.2	44.3
80.5°	49.5	56.0	62.4	66.5	63.6	64.5	59.6	56.0	49.5	47.5	41.1
81°	46.3	52.4	59.2	63.2	60.8	61.2	56.4	52.8	46.3	44.3	37.5
81.5°	42.7	48.7	55.6	60.0	57.6	57.6	52.8	49.5	43.1	40.7	34.2
82°	39.5	45.5	52.0	56.4	54.4	54.8	49.5	45.9	39.9	37.5	31.0
82.5°	35.9	41.9	48.7	53.2	51.2	51.2	46.3	42.7	36.7	33.8	27.4
83°	32.6	38.7	45.5	50.0	48.3	47.9	43.1	39.5	33.4	30.6	24.2
83.5°	29.0	35.0	41.9	46.7	45.1	44.7	39.9	35.9	30.2	27.0	21.3
84°	25.8	31.4	38.7	43.5	41.9	41.5	36.7	32.6	27.0	23.8	18.5
84.5°	22.6	28.2	35.0	39.9	39.1	38.3	33.4	29.4	23.8	20.5	15.7
85°	18.9	24.6	31.8	36.7	35.9	35.4	30.2	25.8	20.9	16.9	12.9
85.5°	15.7	21.3	28.6	33.4	32.6	32.2	27.0	22.6	17.7	13.7	10.1
86°	13.3	17.7	25.0	30.2	29.8	29.0	23.8	19.3	14.9	10.9	7.7
86.5°	10.5	14.1	22.2	27.4	26.6	25.8	20.9	15.7	11.7	8.5	4.8
87°	8.1	11.7	19.3	24.2	23.4	22.6	18.1	12.9	8.9	6.4	2.4
87.5°	5.6	9.3	16.5	20.9	20.5	19.7	15.3	10.5	6.8	4.4	0.4
88°	3.2	6.8	14.1	18.1	17.3	16.5	12.9	8.1	4.8	2.4	0.0
88.5°	1.2	4.4	11.3	14.9	14.5	13.7	10.1	6.0	2.8	0.4	0.0



TEST NUMBER: P776533
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.0	3.2	6.0	5.6	4.8	2.4	0.4	0.0	0.0	0.0

TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2356.9	2356.9	2356.9	2356.9	2356.9	2356.9
0.5°	2353.7	2355.3	2354.9	2355.3	2356.5	2357.7
1°	2352.1	2353.3	2352.5	2353.3	2354.9	2356.9
1.5°	2350.1	2351.3	2350.1	2350.9	2353.3	2355.7
2°	2348.1	2348.9	2347.7	2348.9	2351.3	2354.5
2.5°	2345.6	2346.0	2345.2	2346.0	2348.9	2352.5
3°	2343.2	2343.6	2342.0	2343.6	2346.4	2350.9
3.5°	2340.4	2340.4	2339.2	2340.4	2344.0	2349.3
4°	2337.6	2337.2	2335.6	2337.2	2341.2	2346.8
4.5°	2334.4	2333.6	2332.3	2334.0	2338.4	2344.4
5°	2331.1	2329.9	2328.3	2329.9	2334.8	2341.6
5.5°	2327.5	2325.9	2324.3	2326.3	2331.5	2338.8
6°	2323.5	2321.9	2319.9	2322.3	2327.9	2335.6
6.5°	2319.5	2317.4	2315.4	2317.8	2324.3	2332.7
7°	2315.0	2312.6	2310.6	2313.4	2319.9	2329.1
7.5°	2310.6	2307.8	2305.4	2308.6	2315.8	2325.1
8°	2305.8	2302.5	2300.1	2303.7	2311.0	2321.1
8.5°	2300.5	2297.3	2294.9	2298.5	2306.2	2317.0
9°	2295.3	2291.3	2289.2	2292.9	2301.3	2312.6
9.5°	2289.6	2285.6	2283.2	2287.2	2296.1	2307.8
10°	2284.0	2279.6	2276.8	2281.2	2290.5	2302.9
10.5°	2277.6	2273.1	2270.3	2275.1	2284.8	2297.7
11°	2271.5	2266.3	2263.9	2268.7	2278.8	2292.5
11.5°	2264.7	2259.4	2257.0	2262.3	2272.7	2286.8
12°	2258.2	2252.2	2249.4	2255.0	2265.9	2280.8
12.5°	2251.0	2244.5	2242.1	2248.2	2259.0	2274.3
13°	2243.7	2236.9	2234.1	2240.5	2252.6	2268.3
13.5°	2236.1	2228.8	2226.4	2233.3	2245.3	2261.4
14°	2228.4	2220.8	2217.9	2225.2	2237.7	2254.6
14.5°	2220.4	2212.3	2209.5	2217.1	2230.0	2247.4
15°	2211.9	2203.4	2200.2	2208.7	2222.0	2239.7
15.5°	2203.4	2194.6	2191.8	2200.2	2213.5	2232.0
16°	2194.6	2184.9	2182.5	2191.0	2205.5	2224.0
16.5°	2185.7	2175.6	2172.8	2182.1	2196.6	2215.9
17°	2176.1	2166.0	2162.8	2172.4	2187.7	2207.5
17.5°	2166.4	2155.5	2152.7	2163.2	2178.5	2198.6
18°	2156.7	2145.0	2142.6	2153.1	2168.8	2189.7
18.5°	2146.2	2134.2	2132.1	2142.6	2159.1	2180.1
19°	2135.8	2123.3	2120.5	2132.5	2149.1	2170.4
19.5°	2125.3	2112.4	2109.6	2121.7	2139.0	2160.7
20°	2114.4	2100.7	2098.3	2110.8	2128.1	2150.7
20.5°	2102.7	2088.6	2086.6	2099.9	2117.2	2139.8
21°	2091.5	2076.6	2074.5	2087.8	2106.0	2128.9

TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2054.8	2037.9	2036.7	2052.0	2070.5	2094.3
23°	2042.3	2024.2	2023.4	2039.5	2058.4	2082.2
23.5°	2029.0	2010.9	2010.1	2027.0	2045.9	2069.7
24°	2015.7	1996.4	1996.4	2013.7	2033.0	2056.8
24.5°	2002.0	1981.9	1981.9	2000.4	2019.8	2043.9
25°	1987.9	1967.0	1967.4	1986.7	2006.5	2030.2
25.5°	1973.8	1952.1	1952.9	1973.0	1992.4	2016.5
26°	1958.9	1936.8	1938.0	1958.5	1978.7	2002.8
26.5°	1944.0	1921.5	1922.7	1944.0	1964.2	1988.3
27°	1929.1	1905.4	1907.0	1929.5	1949.7	1973.8
27.5°	1913.4	1888.8	1891.3	1914.6	1934.4	1958.1
28°	1897.7	1872.3	1874.7	1898.9	1919.1	1943.2
28.5°	1881.6	1855.4	1858.6	1883.6	1903.7	1926.7
29°	1865.5	1838.5	1842.1	1867.5	1888.4	1911.8
29.5°	1849.0	1821.6	1825.2	1851.4	1871.9	1894.9
30°	1832.0	1804.2	1807.9	1835.3	1855.8	1879.2
30.5°	1815.1	1786.5	1791.0	1818.3	1839.3	1861.8
31°	1798.2	1768.8	1773.6	1801.8	1822.4	1845.7
31.5°	1780.9	1750.7	1755.5	1784.5	1805.5	1828.4
32°	1763.6	1732.1	1737.8	1767.2	1788.1	1811.5
32.5°	1746.2	1713.6	1720.5	1749.1	1770.8	1793.4
33°	1728.1	1694.7	1702.3	1731.7	1753.5	1776.5
33.5°	1710.0	1675.3	1683.4	1713.6	1735.4	1758.3
34°	1691.5	1656.0	1665.3	1695.5	1718.4	1740.2
34.5°	1673.3	1635.5	1645.9	1676.1	1700.3	1720.5
35°	1654.4	1614.1	1627.0	1658.0	1682.2	1702.3
35.5°	1635.5	1571.4	1607.3	1639.5	1664.1	1683.4
36°	1616.1	1522.7	1587.9	1620.2	1645.5	1663.7
36.5°	1596.4	1467.9	1566.6	1601.2	1626.2	1643.1
37°	1575.4	1413.1	1536.8	1582.3	1607.3	1608.5
37.5°	1550.9	1356.7	1494.5	1563.0	1587.9	1567.0
38°	1509.4	1298.7	1442.5	1543.6	1568.2	1511.4
38.5°	1459.4	1239.1	1388.9	1524.3	1548.9	1455.8
39°	1406.7	1177.9	1338.6	1505.4	1527.9	1401.8
39.5°	1353.5	1116.2	1284.2	1486.0	1494.9	1347.0
40°	1300.3	1059.0	1228.6	1467.1	1455.0	1289.8
40.5°	1244.3	1002.2	1170.2	1447.3	1403.4	1230.2
41°	1186.7	947.4	1113.4	1428.0	1351.9	1169.4
41.5°	1127.9	891.0	1056.6	1408.7	1301.9	1109.4
42°	1070.7	837.1	1001.4	1389.7	1250.4	1052.2
42.5°	1014.3	781.5	948.6	1370.4	1198.8	997.8
43°	959.5	728.7	897.9	1351.1	1144.4	941.8
43.5°	906.8	678.0	845.1	1330.9	1089.2	886.2

TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	748.8	537.4	690.4	1235.5	929.3	725.1
45.5°	698.1	493.5	642.5	1190.3	879.4	673.9
46°	648.9	453.6	597.0	1144.0	828.6	626.0
46.5°	601.8	418.1	551.9	1100.1	777.9	578.9
47°	556.3	388.7	508.0	1054.6	727.1	532.9
47.5°	512.8	363.7	467.7	1007.9	678.8	491.4
48°	470.1	343.2	430.2	951.5	632.0	451.6
48.5°	432.6	325.1	398.0	893.1	586.9	416.1
49°	398.0	308.6	370.6	831.4	542.6	385.9
49.5°	375.8	292.0	346.8	773.4	501.5	360.1
50°	354.5	275.9	327.1	718.2	460.4	338.0
50.5°	333.1	259.4	309.8	666.3	423.4	319.4
51°	311.4	246.5	293.7	615.1	389.5	302.1
51.5°	290.0	238.1	277.5	569.2	360.9	284.8
52°	273.5	233.2	261.4	524.9	336.0	267.9
52.5°	257.8	229.2	246.1	481.4	314.6	253.0
53°	242.1	225.6	234.4	442.3	296.1	242.1
53.5°	229.6	222.0	228.8	406.9	279.2	236.9
54°	222.8	217.9	224.4	373.0	262.2	232.4
54.5°	218.7	214.3	220.7	345.2	246.5	228.8
55°	214.7	210.7	216.7	318.2	233.2	225.2
55.5°	211.1	207.1	213.1	294.9	225.2	221.1
56°	207.5	203.8	209.5	273.5	221.1	217.5
56.5°	203.8	200.2	205.8	257.0	217.1	213.9
57°	200.6	197.0	202.2	242.1	213.5	210.3
57.5°	197.0	193.4	199.0	230.0	209.9	206.6
58°	193.8	190.1	195.8	219.5	206.2	203.4
58.5°	190.5	186.9	192.1	211.1	202.6	199.8
59°	186.9	183.7	188.9	203.0	199.4	196.6
59.5°	183.7	180.5	185.7	196.2	195.8	193.0
60°	180.5	176.8	182.1	190.9	192.1	189.7
60.5°	177.2	173.6	179.3	186.9	188.9	186.1
61°	174.0	170.4	176.0	183.3	185.3	182.9
61.5°	170.4	167.2	172.8	179.7	182.1	179.3
62°	167.2	163.5	169.2	175.6	178.5	176.0
62.5°	163.9	160.3	166.0	172.0	175.2	172.4
63°	160.3	157.1	162.7	168.4	171.6	168.8
63.5°	157.1	153.5	159.1	164.8	168.0	165.6
64°	153.9	150.3	155.9	161.1	164.4	161.9
64.5°	150.3	147.4	152.3	157.5	160.7	158.7
65°	147.0	144.2	149.0	153.9	157.5	155.1
65.5°	143.4	141.0	145.0	150.7	153.9	151.5
66°	140.2	137.8	142.2	147.0	150.3	148.2



TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	130.1	127.7	132.9	136.2	139.8	138.2
68°	126.9	124.5	129.3	132.9	136.2	134.9
68.5°	123.3	121.2	126.1	129.3	132.5	131.7
69°	120.0	118.0	122.9	125.7	129.3	128.5
69.5°	116.4	114.8	119.2	122.1	125.7	124.9
70°	113.2	111.6	116.0	118.4	122.1	121.7
70.5°	110.0	108.4	112.4	114.8	118.4	118.0
71°	106.7	105.1	109.2	111.2	115.2	114.8
71.5°	103.1	101.9	105.9	107.6	111.6	111.2
72°	99.9	98.3	102.3	103.9	108.0	108.0
72.5°	96.3	95.1	98.7	100.3	104.3	104.3
73°	93.1	91.8	95.5	97.1	100.7	101.1
73.5°	89.4	88.2	91.8	93.5	97.1	97.5
74°	86.2	85.0	88.6	89.8	93.9	94.3
74.5°	82.6	81.8	85.0	86.2	90.2	90.6
75°	79.4	78.6	81.4	82.6	86.6	87.4
75.5°	75.7	74.9	78.1	79.0	82.6	83.8
76°	72.5	71.7	74.5	75.3	79.4	80.2
76.5°	68.9	68.5	71.3	71.7	75.7	76.9
77°	65.7	65.3	67.7	68.5	72.1	73.3
77.5°	62.0	62.0	64.5	64.9	68.5	70.1
78°	58.8	58.8	60.8	61.2	64.9	66.5
78.5°	55.2	55.2	57.6	57.6	61.2	63.2
79°	52.0	52.0	54.0	54.0	57.6	59.6
79.5°	48.3	48.7	50.4	50.4	54.0	56.4
80°	45.1	45.5	47.1	47.1	50.4	52.8
80.5°	41.5	42.3	43.5	43.5	46.7	49.5
81°	38.3	39.1	40.3	39.9	43.1	46.3
81.5°	35.0	35.9	37.1	36.7	39.5	42.7
82°	31.8	32.6	33.4	33.4	35.9	39.5
82.5°	28.6	29.0	30.2	30.2	32.6	35.9
83°	25.0	25.8	27.0	27.0	29.0	32.6
83.5°	21.8	22.6	23.4	23.8	25.0	29.0
84°	18.5	19.3	20.1	20.9	21.8	25.8
84.5°	15.7	16.5	16.9	17.7	18.1	22.6
85°	12.5	13.3	13.7	14.9	15.3	18.9
85.5°	9.3	10.1	10.9	12.1	12.9	15.7
86°	6.0	7.3	7.7	9.3	10.5	13.3
86.5°	3.2	4.0	4.4	6.4	7.7	10.5
87°	0.8	1.2	1.6	3.2	5.2	8.1
87.5°	0.0	0.0	0.4	1.2	3.2	5.6
88°	0.0	0.0	0.0	0.0	1.2	3.2
88.5°	0.0	0.0	0.0	0.0	0.0	1.2



TEST NUMBER: P776533

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-4000K

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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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°	2117.6	2150.7	2193.0	2217.1	2228.0	2234.5	2229.2	2209.9	2183.3	2155.5	2112.4
22°	2106.0	2140.2	2184.1	2208.3	2219.6	2226.4	2221.2	2201.0	2173.6	2145.0	2101.1



44°	831.4	1057.0	1509.8	1426.0	1157.7	1352.3	1572.2	1239.1	922.1	1060.6	1366.4
44.5°	777.4	1001.0	1490.0	1368.8	1098.1	1293.1	1553.3	1181.9	866.9	1002.2	1346.6



66.5°	145.0	152.3	160.3	159.5	152.3	155.1	154.3	149.9	141.0	142.6	137.8
67°	141.8	148.6	156.7	156.3	149.0	151.9	151.1	146.6	137.8	139.4	134.5



89°	0.0	2.4	8.5	12.1	11.3	10.5	7.7	3.6	1.2	0.0	0.0
89.5°	0.0	0.4	6.0	8.9	8.5	7.7	4.8	1.6	0.0	0.0	0.0

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21.5°	2079.4	2063.7	2062.5	2076.2	2094.7	2117.6
22°	2067.3	2050.8	2049.2	2064.5	2083.0	2106.0



44°	854.8	630.0	792.4	1309.6	1034.9	831.4
44.5°	802.0	581.7	740.0	1273.7	981.3	777.4



66.5°	137.0	134.5	139.0	143.4	146.6	145.0
67°	133.7	131.3	135.8	139.8	143.0	141.8

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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)