

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: P776356

Luminaire Tested: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776356
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B037)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K
Description: 6 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4780.2 lumens
Efficiency: N/A
Efficacy: 124.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.24 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

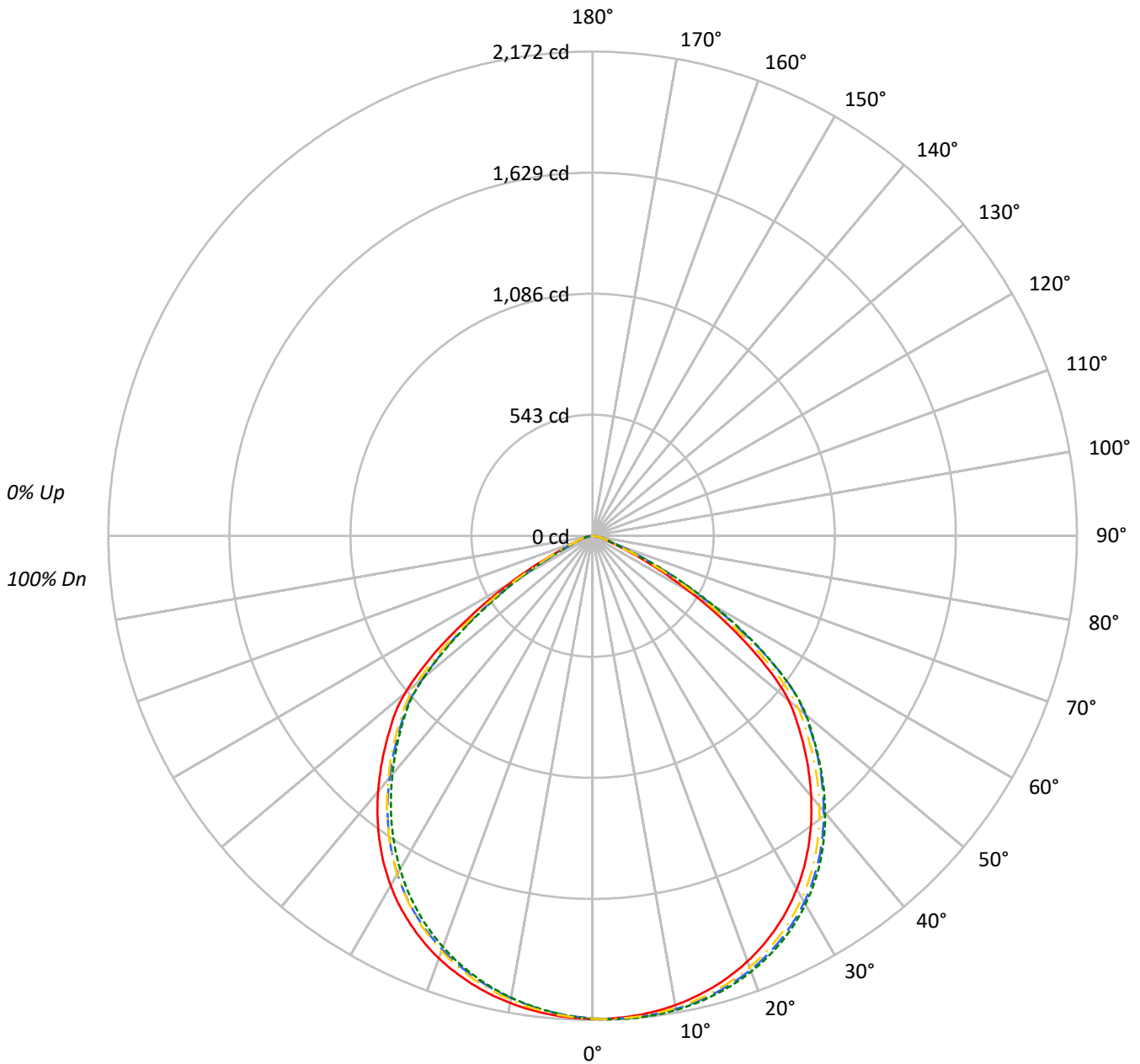
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776356

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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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89			89
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77			77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67			67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46			46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			41
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37			37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34			34
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30			30

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	118746	118746	118746	118746
5°	118919	119524	118660	117994
10°	119008	120249	118485	117115
15°	118917	120892	118202	116028
20°	118514	121367	117645	114518
25°	117600	121459	116577	112367
30°	115885	120835	114670	109314
35°	113107	119163	111588	105170
40°	109133	116075	107115	100002
45°	103964	111608	101445	93948
50°	97813	106555	93541	84193
55°	80657	92814	73469	62889
60°	55960	68273	47979	39613
65°	30315	40316	22895	20262
70°	14426	17134	12614	12550
75°	11607	13090	9616	10124
80°	8776	10765	6535	7671
85°	5409	8617	2705	4403

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 114733 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.1	4.3
10°-20°	589.0	12.3
20°-30°	890.1	18.6
30°-40°	1046.8	21.9
40°-50°	1019.4	21.3
50°-60°	719.1	15.0
60°-70°	240.9	5.0
70°-80°	58.2	1.2
80°-90°	11.6	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°	1684.2	35.2
0°-40°	2731.1	57.1
0°-60°	4469.6	93.5
0°-90°	4780.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4780.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2166	2166	2166	2166	2166	
5°	2161	2172	2156	2144	2161	206
15°	2095	2130	2083	2044	2095	591
25°	1944	2008	1927	1858	1944	895
35°	1690	1781	1667	1572	1690	1055
45°	1341	1440	1308	1212	1341	1033
55°	844	971	769	658	844	748
65°	234	311	176	156	234	251
75°	55	62	45	48	55	59
85°	9	14	4	7	9	11
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°	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1
0.5°	2167.3	2166.9	2165.7	2163.8	2168.1	2168.5	2168.1	2168.1	2166.9	2165.3	2163.4
1°	2167.3	2167.3	2166.9	2165.3	2169.2	2169.2	2168.8	2168.1	2166.5	2164.5	2161.8
1.5°	2167.3	2167.7	2167.3	2166.5	2170.0	2170.0	2169.2	2167.7	2165.3	2163.0	2160.2
2°	2166.9	2167.7	2168.1	2167.7	2170.8	2170.4	2169.2	2167.3	2164.5	2161.8	2158.3
2.5°	2166.1	2167.7	2168.5	2168.5	2171.6	2170.4	2169.2	2166.9	2163.8	2160.2	2156.7
3°	2165.7	2167.7	2168.8	2169.2	2171.6	2170.8	2169.2	2166.1	2162.2	2158.7	2154.4
3.5°	2164.5	2167.7	2169.2	2170.0	2172.0	2170.8	2168.8	2165.3	2161.0	2156.7	2152.0
4°	2163.8	2166.9	2168.8	2170.4	2172.0	2170.8	2168.5	2164.5	2159.8	2154.8	2149.7
4.5°	2162.2	2166.1	2168.8	2170.8	2172.4	2170.4	2168.1	2163.0	2157.9	2152.4	2146.5
5°	2161.0	2165.3	2168.5	2170.8	2172.0	2170.0	2166.9	2161.8	2156.3	2150.1	2144.2
5.5°	2159.5	2164.5	2167.7	2170.4	2171.6	2169.2	2166.1	2160.2	2154.4	2147.7	2141.1
6°	2157.9	2163.0	2167.3	2170.4	2170.8	2168.5	2165.3	2158.7	2152.0	2145.0	2137.9
6.5°	2155.9	2161.8	2166.1	2170.0	2170.0	2167.7	2163.8	2156.7	2149.7	2141.8	2134.4
7°	2154.0	2160.2	2164.9	2169.2	2169.2	2166.1	2162.6	2154.8	2147.3	2139.1	2130.9
7.5°	2151.6	2158.7	2163.8	2168.5	2168.1	2164.9	2161.0	2152.4	2144.6	2136.0	2127.0
8°	2149.3	2156.7	2162.2	2167.7	2166.9	2163.4	2159.1	2150.1	2141.8	2132.4	2123.4
8.5°	2146.5	2154.8	2161.0	2166.9	2165.3	2161.8	2156.7	2147.7	2138.7	2128.9	2119.1
9°	2143.8	2152.4	2159.1	2165.3	2163.8	2159.8	2154.8	2145.0	2135.6	2125.0	2115.2
9.5°	2140.7	2150.1	2157.1	2163.8	2162.2	2157.9	2152.8	2142.2	2132.1	2121.1	2110.5
10°	2137.9	2147.3	2155.1	2162.2	2160.2	2155.5	2150.1	2138.7	2128.5	2117.2	2106.2
10.5°	2134.4	2144.6	2152.8	2160.6	2157.9	2152.8	2147.3	2135.6	2124.6	2112.9	2101.1
11°	2130.9	2141.4	2150.1	2158.3	2155.5	2150.4	2144.6	2132.1	2120.7	2108.6	2096.4
11.5°	2127.0	2138.3	2147.7	2156.3	2152.8	2147.3	2141.4	2128.5	2116.8	2103.9	2091.3
12°	2123.0	2134.8	2144.6	2154.0	2150.1	2144.6	2138.3	2124.6	2112.5	2099.2	2086.3
12.5°	2118.7	2131.3	2141.4	2151.2	2147.3	2141.4	2134.8	2120.7	2107.8	2094.1	2080.8
13°	2114.4	2127.4	2138.3	2148.5	2144.2	2138.3	2131.3	2116.4	2103.1	2089.0	2074.9
13.5°	2109.7	2123.8	2134.8	2145.8	2141.1	2134.4	2127.4	2112.1	2098.4	2083.5	2069.0
14°	2105.0	2119.5	2131.3	2142.6	2137.5	2130.9	2123.4	2107.4	2093.3	2078.0	2063.2
14.5°	2100.3	2115.2	2127.4	2139.5	2133.6	2127.0	2119.1	2102.7	2087.8	2072.2	2056.5
15°	2095.3	2110.5	2123.4	2135.6	2130.1	2123.0	2114.8	2097.6	2082.7	2066.7	2050.2
15.5°	2089.8	2105.8	2119.1	2132.1	2126.2	2118.4	2110.1	2092.5	2076.9	2060.4	2043.6
16°	2084.3	2100.7	2114.8	2128.1	2121.9	2114.0	2105.0	2087.0	2071.4	2054.2	2036.9
16.5°	2078.4	2095.6	2109.7	2124.6	2117.2	2109.3	2100.3	2081.6	2065.1	2047.5	2029.9
17°	2072.2	2090.2	2105.4	2119.9	2112.9	2104.3	2095.3	2075.7	2058.9	2040.9	2022.5
17.5°	2065.9	2084.7	2100.3	2115.6	2107.8	2099.2	2089.8	2069.4	2052.2	2033.8	2015.0
18°	2059.6	2078.8	2095.3	2110.9	2102.7	2094.1	2083.9	2063.2	2045.5	2026.8	2007.6
18.5°	2053.0	2072.9	2089.8	2105.8	2097.2	2088.2	2078.0	2056.9	2038.9	2019.3	1999.4
19°	2045.9	2066.7	2083.9	2100.7	2092.1	2082.7	2072.2	2050.2	2031.5	2011.9	1991.5
19.5°	2038.9	2060.0	2078.0	2095.6	2086.3	2076.5	2065.9	2043.2	2024.0	2004.1	1983.3
20°	2031.5	2053.4	2071.8	2090.2	2080.4	2070.2	2059.6	2036.2	2016.6	1995.8	1974.7
20.5°	2024.0	2046.7	2065.9	2084.3	2074.1	2063.6	2052.6	2028.7	2008.8	1987.6	1965.7
21°	2016.2	2039.3	2059.2	2078.4	2067.9	2056.9	2045.5	2020.9	2000.9	1979.4	1957.1



TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1990.7	2016.6	2038.1	2059.6	2047.1	2035.4	2023.2	1997.0	1975.1	1952.4	1928.9
23°	1982.1	2008.8	2030.7	2052.6	2039.7	2027.9	2015.4	1988.4	1965.7	1943.0	1918.3
23.5°	1973.1	2000.1	2022.8	2045.5	2032.2	2020.1	2007.2	1979.4	1956.7	1933.2	1908.6
24°	1963.7	1991.5	2014.6	2038.5	2024.4	2011.9	1998.6	1970.4	1946.9	1923.4	1898.0
24.5°	1954.3	1982.5	2006.4	2030.7	2016.2	2003.3	1990.0	1961.0	1937.1	1912.9	1887.4
25°	1944.2	1973.1	1997.8	2022.8	2008.0	1994.7	1981.4	1951.6	1927.3	1902.7	1876.5
25.5°	1934.0	1963.7	1989.2	2014.6	1999.4	1985.7	1972.0	1941.4	1916.8	1892.1	1864.7
26°	1923.4	1954.0	1979.8	2006.4	1990.4	1976.7	1962.6	1931.3	1906.2	1881.2	1853.4
26.5°	1913.2	1944.2	1970.8	1997.8	1981.4	1966.9	1953.2	1921.1	1895.2	1869.4	1841.6
27°	1901.9	1933.6	1961.0	1988.8	1972.0	1957.5	1943.0	1910.1	1884.3	1858.5	1829.5
27.5°	1890.9	1923.4	1951.2	1979.8	1962.2	1947.3	1932.4	1899.2	1872.9	1846.7	1817.4
28°	1879.2	1912.9	1941.4	1970.4	1952.0	1936.7	1922.3	1888.2	1861.2	1834.2	1804.4
28.5°	1867.8	1901.5	1930.9	1961.0	1941.8	1926.2	1911.3	1876.8	1849.1	1822.0	1791.9
29°	1855.7	1890.2	1920.3	1950.8	1931.3	1915.2	1899.9	1865.1	1836.9	1809.1	1778.6
29.5°	1843.2	1878.8	1908.9	1940.6	1920.3	1903.9	1888.6	1853.0	1824.0	1796.2	1765.3
30°	1830.7	1866.7	1898.0	1930.1	1908.9	1892.9	1877.2	1840.4	1811.5	1782.9	1751.2
30.5°	1818.1	1854.5	1886.6	1919.1	1897.6	1880.8	1864.7	1827.9	1798.2	1769.2	1737.1
31°	1804.8	1842.4	1874.5	1908.6	1885.8	1868.6	1852.6	1815.0	1784.9	1755.5	1723.0
31.5°	1791.5	1829.5	1862.4	1896.8	1873.7	1856.1	1840.4	1801.7	1771.2	1741.4	1708.1
32°	1777.8	1816.2	1849.8	1885.1	1861.6	1843.6	1827.1	1788.0	1757.1	1726.9	1693.3
32.5°	1763.7	1803.3	1837.3	1872.9	1848.7	1830.7	1813.8	1774.3	1743.0	1712.1	1677.6
33°	1749.6	1789.6	1824.0	1860.8	1835.7	1817.0	1800.5	1760.6	1728.5	1697.2	1662.3
33.5°	1735.2	1775.5	1810.7	1847.9	1822.4	1803.3	1786.8	1746.1	1713.2	1681.5	1647.1
34°	1720.3	1761.8	1797.4	1835.4	1809.1	1789.6	1772.7	1731.2	1698.0	1665.9	1630.6
34.5°	1705.8	1747.3	1783.3	1822.0	1795.0	1775.5	1758.2	1716.4	1682.7	1650.2	1614.6
35°	1690.1	1732.8	1769.2	1808.3	1780.6	1761.0	1743.8	1701.5	1667.4	1634.2	1597.8
35.5°	1674.9	1717.5	1754.7	1794.6	1766.1	1746.5	1728.5	1685.8	1651.4	1617.3	1580.9
36°	1658.4	1702.3	1739.9	1780.6	1751.6	1730.8	1713.6	1670.2	1635.0	1600.9	1563.3
36.5°	1642.8	1687.0	1725.0	1766.1	1736.3	1715.2	1698.0	1654.1	1618.1	1583.7	1546.1
37°	1627.1	1671.4	1709.3	1751.6	1720.7	1699.5	1681.9	1638.1	1601.7	1566.5	1528.5
37.5°	1610.3	1655.7	1694.4	1736.3	1704.6	1683.5	1665.9	1621.3	1584.8	1549.2	1510.9
38°	1593.5	1639.3	1678.4	1721.1	1689.0	1667.4	1649.8	1604.4	1568.0	1531.6	1492.5
38.5°	1576.6	1622.8	1662.3	1705.4	1672.1	1651.0	1633.0	1587.6	1550.0	1513.6	1473.7
39°	1559.4	1606.0	1645.9	1689.7	1656.1	1633.8	1616.2	1570.0	1532.4	1495.2	1455.3
39.5°	1542.6	1589.2	1629.5	1673.3	1638.9	1616.9	1598.9	1552.4	1514.8	1476.4	1436.5
40°	1525.0	1572.3	1612.6	1656.9	1622.0	1599.7	1581.7	1535.1	1496.8	1458.0	1417.3
40.5°	1507.0	1554.7	1595.8	1640.0	1604.4	1582.1	1564.1	1517.1	1478.8	1439.2	1398.9
41°	1489.3	1537.1	1578.2	1623.2	1587.2	1564.1	1546.5	1499.1	1460.0	1420.1	1379.0
41.5°	1471.3	1519.5	1560.6	1605.6	1569.6	1546.5	1528.1	1480.3	1441.6	1401.3	1359.8
42°	1452.9	1501.9	1543.0	1588.4	1551.6	1528.5	1510.1	1461.9	1422.8	1382.1	1340.2
42.5°	1434.5	1483.9	1525.4	1570.8	1533.2	1510.1	1492.5	1443.5	1404.0	1362.9	1320.6
43°	1416.1	1465.5	1507.0	1553.1	1514.8	1491.7	1473.7	1424.8	1385.2	1343.0	1300.3
43.5°	1397.8	1447.1	1489.0	1534.7	1496.4	1473.3	1454.5	1406.0	1366.0	1323.4	1280.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1341.0	1391.1	1433.4	1479.9	1439.6	1416.1	1397.8	1348.0	1308.5	1265.1	1222.8
45.5°	1321.8	1371.9	1415.0	1461.2	1420.5	1397.0	1378.6	1328.9	1289.3	1246.3	1204.0
46°	1302.6	1352.7	1395.8	1442.4	1401.7	1377.4	1359.0	1309.7	1269.8	1227.1	1185.6
46.5°	1283.1	1333.6	1376.6	1423.2	1382.1	1358.2	1339.4	1290.1	1250.6	1207.9	1166.8
47°	1264.3	1314.8	1357.4	1404.0	1362.5	1339.4	1320.6	1271.3	1232.2	1189.5	1146.9
47.5°	1245.5	1295.6	1338.6	1384.8	1343.7	1320.6	1301.9	1252.5	1213.4	1169.6	1125.7
48°	1226.7	1276.4	1319.1	1365.3	1325.3	1301.5	1283.1	1233.7	1193.0	1148.0	1102.6
48.5°	1207.1	1257.6	1300.3	1346.5	1306.2	1283.5	1263.9	1213.8	1171.5	1124.5	1076.4
49°	1188.7	1238.8	1281.1	1327.3	1287.4	1263.9	1245.1	1191.5	1148.8	1098.7	1048.6
49.5°	1168.0	1219.3	1262.7	1307.7	1268.6	1245.1	1225.1	1168.8	1123.8	1070.9	1018.5
50°	1146.9	1199.7	1243.5	1288.9	1249.4	1224.0	1203.2	1144.5	1096.8	1041.6	988.3
50.5°	1123.8	1178.2	1223.6	1270.1	1228.3	1202.0	1180.5	1118.7	1068.6	1012.6	958.2
51°	1097.5	1155.1	1202.0	1251.0	1206.0	1177.8	1155.9	1090.9	1039.6	981.7	926.5
51.5°	1068.2	1129.2	1178.9	1230.6	1182.5	1150.0	1128.5	1060.7	1007.9	950.4	894.8
52°	1038.4	1101.8	1154.7	1208.7	1155.9	1121.8	1099.1	1028.6	975.4	918.3	862.3
52.5°	1007.5	1072.5	1127.7	1185.6	1126.9	1093.2	1070.1	995.8	942.5	885.8	830.2
53°	975.8	1041.6	1099.5	1160.9	1097.9	1062.7	1038.4	962.1	908.9	851.7	797.7
53.5°	942.9	1009.5	1069.0	1134.3	1067.0	1031.8	1006.7	927.3	874.8	818.1	765.2
54°	910.4	977.8	1036.9	1105.4	1035.7	1000.5	973.8	892.8	839.6	784.8	733.1
54.5°	877.2	944.5	1002.8	1074.4	1003.2	969.1	940.6	858.8	804.8	751.1	700.2
55°	843.9	910.8	968.8	1041.6	971.1	936.7	906.1	822.8	768.7	716.3	667.0
55.5°	810.2	875.6	933.9	1007.9	937.8	903.4	872.1	788.3	733.5	682.6	634.9
56°	777.4	840.8	898.3	973.1	904.2	869.3	837.6	753.1	697.9	649.0	602.4
56.5°	742.9	805.5	861.9	937.8	869.7	834.9	802.8	719.4	663.1	615.3	570.3
57°	709.6	769.5	825.1	902.2	834.9	800.4	767.6	685.4	629.0	582.4	539.0
57.5°	676.0	734.3	789.5	866.2	799.3	766.0	733.1	652.1	595.3	549.6	508.5
58°	641.9	698.3	753.9	831.0	764.4	730.8	698.7	618.4	562.1	517.1	477.9
58.5°	608.7	662.3	717.5	795.4	728.8	694.8	664.6	585.2	529.2	485.7	447.8
59°	575.8	627.8	681.8	760.1	693.2	659.1	630.2	551.9	497.9	454.0	418.8
59.5°	543.3	593.4	647.4	725.7	658.0	623.5	596.5	520.6	467.4	423.9	391.0
60°	510.4	559.3	613.7	690.9	622.7	588.7	563.2	488.5	437.6	394.2	364.4
60.5°	478.3	526.5	580.1	656.8	588.3	553.9	530.4	458.0	408.6	367.9	337.8
61°	448.2	494.0	545.6	622.4	554.6	519.8	498.3	427.0	380.1	341.7	311.2
61.5°	417.3	462.3	513.5	590.3	521.8	486.5	466.6	398.1	353.4	315.9	284.6
62°	388.3	431.3	482.2	556.2	488.9	453.7	434.9	371.1	326.8	289.6	257.9
62.5°	360.1	401.6	451.7	524.1	456.4	421.2	403.9	343.7	299.8	263.4	235.2
63°	333.1	373.0	421.6	492.4	425.1	390.6	376.2	316.7	273.2	241.1	213.7
63.5°	306.5	344.8	391.8	461.1	394.5	362.1	348.0	289.6	246.2	220.4	193.8
64°	281.4	318.2	363.6	430.2	366.4	333.9	319.8	262.6	221.5	200.4	175.4
64.5°	257.2	292.4	336.2	399.6	338.6	305.3	292.0	238.4	198.1	181.6	158.5
65°	233.7	268.1	310.0	370.7	310.8	277.1	263.8	215.7	176.5	164.4	143.7
65.5°	211.4	244.6	285.0	342.5	282.6	252.1	238.4	194.1	156.2	148.3	130.3
66°	190.2	223.5	260.7	314.7	254.8	227.8	214.9	174.2	139.0	134.6	119.4



TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	137.4	166.0	194.1	237.6	186.7	165.6	154.2	124.9	101.0	101.8	95.1
68°	126.8	149.5	174.6	214.9	166.4	148.0	138.2	112.7	93.9	94.3	89.6
68.5°	116.6	136.2	156.6	193.0	149.1	131.9	124.1	102.6	89.6	88.1	85.7
69°	106.1	125.6	140.9	173.0	132.7	118.2	112.3	94.3	86.1	83.8	82.2
69.5°	95.5	115.5	130.3	154.2	119.0	106.5	102.2	88.5	82.6	80.2	79.1
70°	90.0	104.9	119.8	137.0	106.9	97.5	94.3	84.2	78.7	76.7	75.5
70.5°	86.1	94.7	109.6	126.0	97.9	90.0	88.5	80.6	75.2	73.2	72.4
71°	82.6	88.1	99.4	114.7	90.4	85.7	84.5	77.1	71.2	70.1	69.3
71.5°	79.1	83.4	88.9	103.7	85.3	82.2	81.0	73.6	67.7	66.5	65.8
72°	75.5	79.8	84.5	92.8	81.8	78.7	77.9	70.1	64.2	63.0	62.6
72.5°	71.6	76.3	81.4	86.9	78.3	75.2	74.4	66.5	60.7	59.9	59.5
73°	68.1	72.8	77.9	83.4	75.2	72.0	70.8	63.0	57.5	56.8	56.4
73.5°	64.6	69.3	74.4	79.8	71.6	68.5	67.7	59.9	54.4	53.6	53.6
74°	61.5	65.8	70.8	76.7	68.1	65.4	64.2	56.4	51.3	50.5	50.5
74.5°	57.9	62.6	67.7	73.2	65.0	61.8	61.1	53.2	48.1	47.4	47.8
75°	54.8	59.1	64.2	69.7	61.8	58.7	57.9	50.1	45.4	44.6	45.0
75.5°	51.7	56.0	61.1	66.5	58.7	55.6	54.8	47.4	42.7	41.9	42.3
76°	48.5	52.8	57.5	63.0	55.6	52.8	51.7	44.2	39.9	39.1	39.9
76.5°	45.8	49.7	54.8	59.9	52.4	49.7	48.9	41.5	37.2	36.4	37.2
77°	42.7	47.0	51.7	56.8	49.7	47.0	46.2	38.8	34.4	34.1	34.8
77.5°	39.9	43.8	48.5	53.6	47.0	44.2	43.4	36.0	32.1	31.7	32.5
78°	37.6	41.1	45.8	50.9	44.2	41.5	40.7	33.7	29.7	29.4	30.1
78.5°	34.8	38.4	43.1	47.8	41.5	39.1	38.0	31.3	27.4	26.6	27.8
79°	32.5	36.0	40.3	45.0	38.8	36.4	35.6	29.0	25.1	24.3	25.8
79.5°	30.1	33.3	37.6	42.7	36.4	34.4	33.3	26.6	22.7	22.3	23.5
80°	27.8	30.9	35.2	39.9	34.1	32.1	30.9	24.3	20.7	20.0	21.1
80.5°	25.4	28.6	32.9	37.2	31.7	29.7	28.6	21.9	18.8	18.0	19.2
81°	23.5	26.2	30.5	34.8	29.4	27.4	26.2	20.0	16.8	16.0	17.6
81.5°	21.5	24.3	28.2	32.5	27.0	25.4	23.9	17.6	14.9	14.1	15.7
82°	19.2	21.9	25.8	30.1	24.7	23.1	21.9	16.0	13.3	12.1	13.7
82.5°	17.2	20.0	23.9	28.2	22.7	21.1	20.0	14.1	11.4	10.6	12.1
83°	15.7	18.0	21.9	25.8	20.7	19.2	18.0	12.1	9.8	9.0	10.6
83.5°	13.7	16.4	20.0	23.9	19.2	17.2	16.0	10.6	8.2	7.4	9.0
84°	12.1	14.5	18.0	21.9	17.2	15.7	14.5	9.0	6.7	5.9	7.4
84.5°	10.6	12.9	16.0	20.0	15.3	13.7	12.5	7.4	5.5	4.7	6.3
85°	8.6	11.0	14.5	18.0	13.7	12.1	11.0	6.3	4.3	3.9	5.1
85.5°	7.0	9.4	12.5	16.0	12.1	10.6	9.4	5.1	3.1	3.1	3.9
86°	5.9	7.8	11.0	14.5	10.6	9.0	8.2	4.3	2.7	2.3	2.7
86.5°	4.3	6.3	9.8	12.9	9.0	7.4	6.7	3.1	2.0	1.6	1.6
87°	3.5	5.1	8.2	11.4	7.4	6.3	5.5	2.3	1.2	0.8	0.8
87.5°	2.7	4.3	7.0	9.8	5.9	4.7	4.3	1.6	0.8	0.4	0.0
88°	2.0	3.5	5.5	8.2	4.7	3.5	3.1	0.8	0.4	0.0	0.0
88.5°	1.2	2.3	4.3	6.7	3.5	2.3	2.0	0.4	0.0	0.0	0.0



TEST NUMBER: P776356
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-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	1.2	2.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2166.1	2166.1	2166.1	2166.1	2166.1	2166.1
0.5°	2160.6	2165.3	2166.1	2166.1	2167.3	2167.3
1°	2158.7	2163.8	2164.5	2164.9	2166.9	2167.3
1.5°	2156.3	2161.8	2163.0	2163.8	2166.1	2167.3
2°	2154.0	2159.8	2161.4	2162.2	2165.3	2166.9
2.5°	2151.6	2157.5	2159.5	2160.6	2164.1	2166.1
3°	2148.9	2155.1	2157.5	2159.1	2163.0	2165.7
3.5°	2146.1	2152.8	2155.1	2156.7	2161.8	2164.5
4°	2143.4	2150.1	2152.8	2154.8	2159.8	2163.8
4.5°	2140.3	2147.3	2150.1	2152.4	2158.3	2162.2
5°	2136.7	2144.2	2146.9	2149.7	2156.3	2161.0
5.5°	2133.2	2141.1	2144.2	2146.9	2154.4	2159.5
6°	2129.3	2137.5	2141.1	2144.2	2152.0	2157.9
6.5°	2125.4	2134.0	2137.9	2141.1	2149.7	2155.9
7°	2121.5	2130.1	2134.4	2137.9	2146.9	2154.0
7.5°	2117.2	2126.2	2130.5	2134.4	2144.2	2151.6
8°	2112.9	2122.3	2126.6	2130.9	2141.4	2149.3
8.5°	2108.2	2118.0	2122.7	2127.0	2138.3	2146.5
9°	2103.5	2113.7	2118.4	2123.0	2134.8	2143.8
9.5°	2098.8	2109.0	2114.0	2118.7	2131.3	2140.7
10°	2093.3	2103.9	2109.3	2114.4	2127.4	2137.9
10.5°	2088.2	2099.2	2104.7	2109.7	2123.4	2134.4
11°	2082.3	2093.7	2099.6	2105.0	2119.1	2130.9
11.5°	2076.9	2088.2	2094.1	2100.0	2115.2	2127.0
12°	2071.0	2082.7	2088.6	2094.9	2110.9	2123.0
12.5°	2064.7	2076.9	2083.1	2089.4	2105.8	2118.7
13°	2058.1	2070.6	2077.3	2083.9	2101.1	2114.4
13.5°	2051.8	2064.3	2071.0	2078.0	2095.6	2109.7
14°	2045.2	2058.1	2064.7	2072.2	2090.2	2105.0
14.5°	2038.1	2051.4	2058.1	2065.5	2084.7	2100.3
15°	2031.1	2044.4	2051.8	2059.6	2079.2	2095.3
15.5°	2023.6	2037.3	2044.8	2052.6	2072.9	2089.8
16°	2016.2	2029.9	2037.7	2045.5	2066.7	2084.3
16.5°	2008.4	2022.5	2029.9	2038.5	2060.0	2078.4
17°	2000.1	2014.6	2022.5	2031.1	2053.4	2072.2
17.5°	1992.3	2006.4	2014.6	2023.6	2046.7	2065.9
18°	1983.7	1998.6	2006.4	2015.8	2039.7	2059.6
18.5°	1975.1	1989.6	1998.2	2007.6	2032.2	2053.0
19°	1966.1	1981.4	1989.6	1999.4	2024.4	2045.9
19.5°	1956.7	1972.4	1981.0	1990.7	2016.6	2038.9
20°	1947.3	1963.0	1972.0	1982.1	2008.8	2031.5
20.5°	1937.9	1954.0	1962.2	1973.1	2000.5	2024.0
21°	1928.1	1943.8	1952.8	1963.7	1991.9	2016.2

TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1896.8	1913.2	1923.0	1934.4	1964.9	1990.7
23°	1886.2	1903.1	1912.1	1923.8	1955.5	1982.1
23.5°	1874.9	1892.1	1901.5	1913.2	1945.7	1973.1
24°	1863.5	1880.8	1890.5	1902.3	1936.0	1963.7
24.5°	1852.2	1869.4	1879.2	1891.3	1925.8	1954.3
25°	1840.1	1857.7	1867.5	1880.4	1914.8	1944.2
25.5°	1827.9	1845.9	1855.3	1868.6	1903.9	1934.0
26°	1815.8	1833.4	1843.6	1856.9	1892.9	1923.4
26.5°	1802.9	1821.3	1831.1	1844.4	1881.5	1913.2
27°	1790.0	1808.3	1818.5	1831.8	1869.8	1901.9
27.5°	1777.0	1795.4	1805.2	1819.7	1858.1	1890.9
28°	1763.7	1782.1	1792.3	1806.8	1845.9	1879.2
28.5°	1749.6	1768.4	1779.0	1793.5	1833.4	1867.8
29°	1735.5	1754.7	1764.9	1779.8	1820.9	1855.7
29.5°	1721.5	1740.6	1751.2	1766.5	1807.6	1843.2
30°	1706.6	1726.9	1736.7	1752.0	1794.3	1830.7
30.5°	1692.1	1712.1	1722.2	1738.3	1780.9	1818.1
31°	1676.8	1697.2	1707.8	1723.4	1767.2	1804.8
31.5°	1661.2	1682.7	1693.3	1708.9	1753.2	1791.5
32°	1645.5	1667.4	1678.0	1693.7	1738.7	1777.8
32.5°	1629.9	1651.8	1662.3	1678.8	1724.2	1763.7
33°	1613.4	1636.5	1647.5	1663.5	1709.3	1749.6
33.5°	1597.0	1620.9	1631.8	1647.9	1694.1	1735.2
34°	1580.5	1604.4	1615.8	1631.8	1678.8	1720.3
34.5°	1563.3	1588.0	1599.3	1616.2	1663.1	1705.8
35°	1546.5	1571.5	1583.3	1599.3	1647.5	1690.1
35.5°	1528.9	1554.7	1566.8	1582.9	1631.4	1674.9
36°	1511.7	1537.9	1550.0	1566.1	1615.0	1658.4
36.5°	1493.6	1521.0	1533.6	1549.2	1598.5	1642.8
37°	1476.0	1503.8	1516.4	1532.4	1581.3	1627.1
37.5°	1457.6	1486.2	1499.1	1515.2	1564.9	1610.3
38°	1439.6	1468.6	1481.9	1497.6	1547.7	1593.5
38.5°	1420.5	1451.4	1464.3	1479.6	1530.4	1576.6
39°	1402.4	1433.0	1447.1	1462.3	1512.4	1559.4
39.5°	1383.3	1415.0	1429.5	1444.7	1494.8	1542.6
40°	1364.5	1397.4	1411.5	1426.7	1477.2	1525.0
40.5°	1345.7	1379.4	1393.4	1408.3	1459.2	1507.0
41°	1326.5	1360.6	1375.0	1390.3	1441.2	1489.3
41.5°	1306.9	1342.2	1357.0	1371.9	1422.4	1471.3
42°	1287.8	1323.8	1338.6	1353.5	1404.4	1452.9
42.5°	1268.2	1305.4	1320.3	1335.1	1385.6	1434.5
43°	1249.4	1287.0	1301.9	1316.7	1367.2	1416.1
43.5°	1229.8	1267.8	1283.5	1297.5	1348.4	1397.8



TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1174.6	1211.8	1227.5	1241.2	1291.7	1341.0
45.5°	1156.2	1193.4	1208.7	1222.4	1272.1	1321.8
46°	1136.7	1174.6	1190.3	1204.0	1253.3	1302.6
46.5°	1116.3	1156.2	1171.5	1184.8	1234.1	1283.1
47°	1094.4	1137.5	1153.5	1166.4	1215.7	1264.3
47.5°	1069.4	1116.7	1134.3	1147.6	1197.0	1245.5
48°	1042.0	1096.0	1113.6	1127.3	1178.2	1226.7
48.5°	1012.2	1072.5	1092.1	1106.1	1159.0	1207.1
49°	981.7	1046.3	1070.1	1084.6	1138.6	1188.7
49.5°	950.8	1017.7	1043.1	1059.6	1117.9	1168.0
50°	919.8	987.2	1014.9	1031.8	1095.2	1146.9
50.5°	887.3	955.5	983.2	1001.2	1069.4	1123.8
51°	854.9	923.7	951.9	969.9	1040.4	1097.5
51.5°	822.4	890.9	918.7	937.8	1009.5	1068.2
52°	789.5	858.4	886.6	905.0	978.2	1038.4
52.5°	757.4	824.7	853.7	871.7	946.4	1007.5
53°	724.5	790.3	819.6	838.4	914.7	975.8
53.5°	692.8	757.0	784.4	804.0	881.9	942.9
54°	660.7	723.3	751.1	770.3	849.0	910.4
54.5°	628.6	691.2	717.1	736.6	815.7	877.2
55°	597.3	658.0	682.6	704.6	782.1	843.9
55.5°	566.0	625.5	649.8	671.3	748.8	810.2
56°	535.9	593.8	616.9	638.8	715.5	777.4
56.5°	506.9	562.1	584.4	607.1	682.6	742.9
57°	476.7	531.2	552.7	576.2	649.8	709.6
57.5°	447.8	501.0	521.4	544.1	617.7	676.0
58°	418.8	470.9	490.8	513.5	585.6	641.9
58.5°	392.2	442.3	462.3	484.6	553.9	608.7
59°	366.0	414.5	434.1	455.2	523.7	575.8
59.5°	340.1	387.1	407.1	427.0	493.6	543.3
60°	313.9	361.3	380.5	399.6	464.2	510.4
60.5°	288.1	335.1	355.0	372.6	435.6	478.3
61°	261.9	310.4	330.4	346.8	406.7	448.2
61.5°	239.2	287.3	307.3	321.4	378.9	417.3
62°	217.2	265.4	284.6	297.9	351.9	388.3
62.5°	197.3	243.9	263.0	274.8	325.7	360.1
63°	178.5	223.9	242.7	252.5	300.2	333.1
63.5°	162.0	205.1	223.5	232.1	276.3	306.5
64°	146.4	187.5	205.5	212.5	252.9	281.4
64.5°	133.1	171.0	187.9	194.5	230.2	257.2
65°	122.1	156.2	172.2	177.3	209.0	233.7
65.5°	112.3	142.1	157.3	161.7	189.4	211.4
66°	104.1	132.3	143.7	147.2	171.8	190.2



TEST NUMBER: P776356

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	86.5	103.3	113.9	113.9	131.5	137.4
68°	83.4	93.5	104.1	107.2	122.5	126.8
68.5°	79.8	88.1	94.3	100.2	113.1	116.6
69°	76.7	84.5	88.5	93.2	104.1	106.1
69.5°	73.6	81.4	84.5	86.1	94.7	95.5
70°	70.5	78.3	81.4	83.0	88.9	90.0
70.5°	67.3	74.8	78.3	79.5	84.5	86.1
71°	64.2	71.6	75.2	76.3	81.0	82.6
71.5°	61.1	68.5	72.0	73.2	77.5	79.1
72°	57.9	65.4	68.5	70.1	74.0	75.5
72.5°	55.2	62.2	65.4	66.9	70.8	71.6
73°	52.4	59.1	62.2	63.8	67.3	68.1
73.5°	49.3	56.4	59.5	60.7	64.2	64.6
74°	46.6	53.2	56.4	57.5	60.7	61.5
74.5°	44.2	50.5	53.6	54.4	57.5	57.9
75°	41.5	47.8	50.9	51.7	54.4	54.8
75.5°	39.1	45.0	48.1	48.9	51.3	51.7
76°	36.4	42.7	45.4	46.2	48.5	48.5
76.5°	34.1	39.9	42.7	43.4	45.4	45.8
77°	32.1	37.6	40.3	40.7	42.7	42.7
77.5°	29.7	35.2	37.6	38.0	39.9	39.9
78°	27.8	32.9	35.2	35.6	37.2	37.6
78.5°	25.4	30.5	32.9	33.3	34.8	34.8
79°	23.5	28.6	30.5	30.9	32.5	32.5
79.5°	21.5	26.2	28.6	28.6	29.7	30.1
80°	19.6	24.3	26.2	26.6	27.8	27.8
80.5°	17.6	22.3	24.3	24.3	25.4	25.4
81°	16.0	20.4	22.3	22.3	23.1	23.5
81.5°	14.1	18.4	20.4	20.4	21.1	21.5
82°	12.5	16.8	18.4	18.4	19.2	19.2
82.5°	11.0	14.9	16.8	16.8	17.2	17.2
83°	9.4	13.3	14.9	14.9	15.3	15.7
83.5°	7.8	11.7	13.3	13.3	13.3	13.7
84°	6.3	10.2	11.7	11.7	11.7	12.1
84.5°	4.7	8.6	10.2	10.2	10.2	10.6
85°	3.5	7.0	8.6	8.6	8.2	8.6
85.5°	2.3	5.5	7.0	7.0	7.0	7.0
86°	1.2	3.9	5.5	5.9	5.9	5.9
86.5°	0.4	2.7	4.3	4.3	4.7	4.3
87°	0.0	1.6	2.7	3.1	3.5	3.5
87.5°	0.0	0.8	1.6	2.0	2.7	2.7
88°	0.0	0.0	0.8	0.8	2.0	2.0
88.5°	0.0	0.0	0.0	0.4	1.2	1.2



TEST NUMBER: P776356
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-3000K

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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21.5°	2008.0	2031.8	2052.2	2072.6	2061.2	2049.9	2038.5	2013.5	1992.3	1970.4	1947.7
22°	1999.4	2024.4	2045.2	2066.3	2054.6	2043.2	2031.1	2005.2	1983.7	1961.8	1938.3



44°	1379.4	1428.7	1470.9	1517.1	1477.6	1454.1	1435.7	1386.8	1346.9	1303.8	1261.1
44.5°	1359.8	1409.5	1451.8	1498.7	1458.4	1435.7	1416.5	1367.6	1327.3	1284.6	1242.0



66.5°	171.0	202.8	237.6	288.9	230.5	205.9	192.6	156.2	123.7	122.1	110.0
67°	153.8	183.6	215.3	262.2	207.5	184.7	172.6	139.3	111.2	111.2	101.8



89°	0.8	1.6	3.1	5.5	2.3	1.2	0.8	0.0	0.0	0.0	0.0
89.5°	0.4	0.8	2.0	3.9	1.2	0.4	0.4	0.0	0.0	0.0	0.0

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21.5°	1917.9	1934.0	1943.0	1954.0	1983.3	2008.0
22°	1907.4	1924.2	1933.2	1944.2	1974.3	1999.4



44°	1211.4	1249.0	1264.7	1279.2	1329.6	1379.4
44.5°	1193.0	1230.2	1245.9	1260.0	1310.5	1359.8

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66.5°	97.1	122.5	133.9	133.9	155.4	171.0
67°	91.2	112.7	123.7	122.5	140.9	153.8

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89°	0.0	0.0	0.0	0.0	0.4	0.8
89.5°	0.0	0.0	0.0	0.0	0.0	0.4

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Scaled Data Report



(END OF REPORT)