

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: P776355

Luminaire Tested: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776355
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-2700K
Description: 6 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

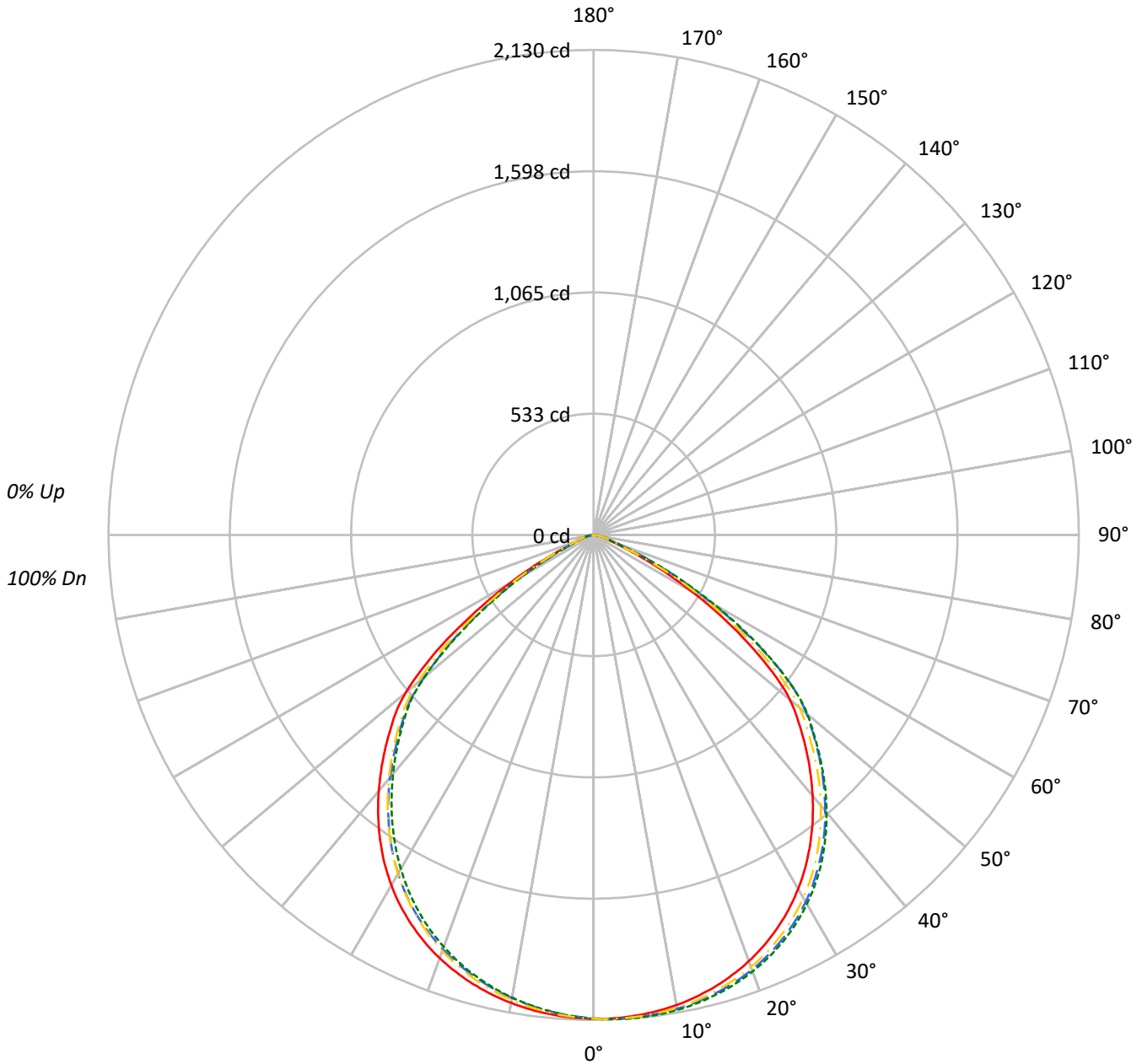
Lumens per Lamp: N/A
Luminaire Lumens: 4687.9 lumens
Efficiency: N/A
Efficacy: 121.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.32
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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



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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	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89								
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77								
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67								
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59								
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52								
6	75	63	55	49	74	62	55	49	61	54	49	59	53	48	58	52	48	46								
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41								
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37								
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	116454	116454	116454	116454
5°	116624	117213	116371	115716
10°	116709	117928	116197	114850
15°	116618	118559	115920	113786
20°	116222	119022	115370	112307
25°	115325	119112	114327	110196
30°	113644	118506	112454	107206
35°	110925	116861	109433	103142
40°	107022	113835	105047	98069
45°	101956	109453	99483	92134
50°	95920	104500	91733	82564
55°	79099	91027	72055	61675
60°	54886	66957	47058	38846
65°	29731	39537	22454	19872
70°	14153	16798	12374	12310
75°	11374	12836	9425	9913
80°	8619	10544	6409	7514
85°	5284	8428	2642	4340

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 112523 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.2	4.3
10°-20°	577.6	12.3
20°-30°	872.9	18.6
30°-40°	1026.6	21.9
40°-50°	999.7	21.3
50°-60°	705.2	15.0
60°-70°	236.3	5.0
70°-80°	57.0	1.2
80°-90°	11.3	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°	1651.7	35.2
0°-40°	2678.3	57.1
0°-60°	4383.3	93.5
0°-90°	4687.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4687.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2124	2124	2124	2124	2124	
5°	2119	2130	2115	2103	2119	202
15°	2055	2089	2042	2005	2055	580
25°	1907	1969	1890	1822	1907	878
35°	1658	1746	1635	1541	1658	1035
45°	1315	1412	1283	1188	1315	1013
55°	828	952	754	645	828	733
65°	229	305	173	153	229	246
75°	54	61	44	47	54	58
85°	8	13	4	7	8	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°	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3
0.5°	2125.4	2125.0	2123.9	2122.0	2126.2	2126.6	2126.2	2126.2	2125.0	2123.5	2121.6
1°	2125.4	2125.4	2125.0	2123.5	2127.3	2127.3	2127.0	2126.2	2124.7	2122.7	2120.1
1.5°	2125.4	2125.8	2125.4	2124.7	2128.1	2128.1	2127.3	2125.8	2123.5	2121.2	2118.5
2°	2125.0	2125.8	2126.2	2125.8	2128.9	2128.5	2127.3	2125.4	2122.7	2120.1	2116.6
2.5°	2124.3	2125.8	2126.6	2126.6	2129.7	2128.5	2127.3	2125.0	2122.0	2118.5	2115.1
3°	2123.9	2125.8	2127.0	2127.3	2129.7	2128.9	2127.3	2124.3	2120.4	2117.0	2112.8
3.5°	2122.7	2125.8	2127.3	2128.1	2130.0	2128.9	2127.0	2123.5	2119.3	2115.1	2110.5
4°	2122.0	2125.0	2127.0	2128.5	2130.0	2128.9	2126.6	2122.7	2118.1	2113.1	2108.2
4.5°	2120.4	2124.3	2127.0	2128.9	2130.4	2128.5	2126.2	2121.2	2116.2	2110.8	2105.1
5°	2119.3	2123.5	2126.6	2128.9	2130.0	2128.1	2125.0	2120.1	2114.7	2108.5	2102.8
5.5°	2117.8	2122.7	2125.8	2128.5	2129.7	2127.3	2124.3	2118.5	2112.8	2106.2	2099.7
6°	2116.2	2121.2	2125.4	2128.5	2128.9	2126.6	2123.5	2117.0	2110.5	2103.6	2096.6
6.5°	2114.3	2120.1	2124.3	2128.1	2128.1	2125.8	2122.0	2115.1	2108.2	2100.5	2093.2
7°	2112.4	2118.5	2123.1	2127.3	2127.3	2124.3	2120.8	2113.1	2105.9	2097.8	2089.7
7.5°	2110.1	2117.0	2122.0	2126.6	2126.2	2123.1	2119.3	2110.8	2103.2	2094.7	2085.9
8°	2107.8	2115.1	2120.4	2125.8	2125.0	2121.6	2117.4	2108.5	2100.5	2091.3	2082.4
8.5°	2105.1	2113.1	2119.3	2125.0	2123.5	2120.1	2115.1	2106.2	2097.4	2087.8	2078.2
9°	2102.4	2110.8	2117.4	2123.5	2122.0	2118.1	2113.1	2103.6	2094.3	2084.0	2074.4
9.5°	2099.3	2108.5	2115.5	2122.0	2120.4	2116.2	2111.2	2100.9	2090.9	2080.1	2069.8
10°	2096.6	2105.9	2113.5	2120.4	2118.5	2113.9	2108.5	2097.4	2087.4	2076.3	2065.5
10.5°	2093.2	2103.2	2111.2	2118.9	2116.2	2111.2	2105.9	2094.3	2083.6	2072.1	2060.6
11°	2089.7	2100.1	2108.5	2116.6	2113.9	2108.9	2103.2	2090.9	2079.8	2067.9	2056.0
11.5°	2085.9	2097.0	2106.2	2114.7	2111.2	2105.9	2100.1	2087.4	2075.9	2063.2	2051.0
12°	2082.1	2093.6	2103.2	2112.4	2108.5	2103.2	2097.0	2083.6	2071.7	2058.6	2046.0
12.5°	2077.8	2090.1	2100.1	2109.7	2105.9	2100.1	2093.6	2079.8	2067.1	2053.6	2040.6
13°	2073.6	2086.3	2097.0	2107.0	2102.8	2097.0	2090.1	2075.5	2062.5	2048.7	2034.8
13.5°	2069.0	2082.8	2093.6	2104.3	2099.7	2093.2	2086.3	2071.3	2057.9	2043.3	2029.1
14°	2064.4	2078.6	2090.1	2101.2	2096.3	2089.7	2082.4	2066.7	2052.9	2037.9	2023.3
14.5°	2059.8	2074.4	2086.3	2098.2	2092.4	2085.9	2078.2	2062.1	2047.5	2032.2	2016.8
15°	2054.8	2069.8	2082.4	2094.3	2089.0	2082.1	2074.0	2057.1	2042.5	2026.8	2010.7
15.5°	2049.4	2065.2	2078.2	2090.9	2085.1	2077.4	2069.4	2052.1	2036.8	2020.6	2004.1
16°	2044.1	2060.2	2074.0	2087.0	2080.9	2073.2	2064.4	2046.7	2031.4	2014.5	1997.6
16.5°	2038.3	2055.2	2069.0	2083.6	2076.3	2068.6	2059.8	2041.4	2025.2	2008.0	1990.7
17°	2032.2	2049.8	2064.8	2079.0	2072.1	2063.6	2054.8	2035.6	2019.1	2001.4	1983.4
17.5°	2026.0	2044.4	2059.8	2074.8	2067.1	2058.6	2049.4	2029.5	2012.6	1994.5	1976.1
18°	2019.9	2038.7	2054.8	2070.2	2062.1	2053.6	2043.7	2023.3	2006.1	1987.6	1968.8
18.5°	2013.3	2032.9	2049.4	2065.2	2056.7	2047.9	2037.9	2017.2	1999.5	1980.3	1960.8
19°	2006.4	2026.8	2043.7	2060.2	2051.7	2042.5	2032.2	2010.7	1992.2	1973.0	1953.1
19.5°	1999.5	2020.3	2037.9	2055.2	2046.0	2036.4	2026.0	2003.7	1984.9	1965.4	1945.0
20°	1992.2	2013.7	2031.8	2049.8	2040.2	2030.2	2019.9	1996.8	1977.6	1957.3	1936.6
20.5°	1984.9	2007.2	2026.0	2044.1	2034.1	2023.7	2013.0	1989.5	1970.0	1949.2	1927.7
21°	1977.3	1999.9	2019.5	2038.3	2027.9	2017.2	2006.1	1981.9	1962.3	1941.2	1919.3

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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°	1952.3	1977.6	1998.8	2019.9	2007.6	1996.1	1984.2	1958.5	1937.0	1914.7	1891.7
23°	1943.9	1970.0	1991.5	2013.0	2000.3	1988.8	1976.5	1950.0	1927.7	1905.5	1881.3
23.5°	1935.0	1961.5	1983.8	2006.1	1993.0	1981.1	1968.4	1941.2	1918.9	1895.9	1871.7
24°	1925.8	1953.1	1975.7	1999.1	1985.3	1973.0	1960.0	1932.3	1909.3	1886.3	1861.3
24.5°	1916.6	1944.2	1967.7	1991.5	1977.3	1964.6	1951.5	1923.1	1899.7	1875.9	1851.0
25°	1906.6	1935.0	1959.2	1983.8	1969.2	1956.1	1943.1	1913.9	1890.1	1865.9	1840.2
25.5°	1896.7	1925.8	1950.8	1975.7	1960.8	1947.3	1933.9	1903.9	1879.8	1855.6	1828.7
26°	1886.3	1916.2	1941.6	1967.7	1951.9	1938.5	1924.7	1894.0	1869.4	1844.8	1817.6
26.5°	1876.3	1906.6	1932.7	1959.2	1943.1	1928.9	1915.5	1884.0	1858.6	1833.3	1806.1
27°	1865.2	1896.3	1923.1	1950.4	1933.9	1919.7	1905.5	1873.2	1847.9	1822.6	1794.2
27.5°	1854.4	1886.3	1913.5	1941.6	1924.3	1909.7	1895.1	1862.5	1836.8	1811.0	1782.3
28°	1842.9	1875.9	1903.9	1932.3	1914.3	1899.3	1885.1	1851.7	1825.3	1798.8	1769.6
28.5°	1831.8	1864.8	1893.6	1923.1	1904.3	1889.0	1874.4	1840.6	1813.4	1786.9	1757.3
29°	1819.9	1853.7	1883.2	1913.2	1894.0	1878.2	1863.3	1829.1	1801.5	1774.2	1744.3
29.5°	1807.6	1842.5	1872.1	1903.2	1883.2	1867.1	1852.1	1817.2	1788.8	1761.5	1731.2
30°	1795.3	1830.6	1861.3	1892.8	1872.1	1856.3	1841.0	1804.9	1776.5	1748.5	1717.4
30.5°	1783.0	1818.7	1850.2	1882.1	1861.0	1844.4	1828.7	1792.6	1763.5	1735.0	1703.6
31°	1770.0	1806.8	1838.3	1871.7	1849.4	1832.5	1816.8	1780.0	1750.4	1721.6	1689.7
31.5°	1756.9	1794.2	1826.4	1860.2	1837.5	1820.3	1804.9	1766.9	1737.0	1707.8	1675.2
32°	1743.5	1781.1	1814.1	1848.7	1825.6	1808.0	1791.9	1753.5	1723.1	1693.6	1660.6
32.5°	1729.7	1768.4	1801.8	1836.8	1813.0	1795.3	1778.8	1740.0	1709.3	1679.0	1645.2
33°	1715.9	1755.0	1788.8	1824.9	1800.3	1781.9	1765.8	1726.6	1695.1	1664.4	1630.3
33.5°	1701.6	1741.2	1775.7	1812.2	1787.3	1768.4	1752.3	1712.4	1680.2	1649.1	1615.3
34°	1687.1	1727.8	1762.7	1799.9	1774.2	1755.0	1738.5	1697.8	1665.2	1633.7	1599.2
34.5°	1672.9	1713.5	1748.9	1786.9	1760.4	1741.2	1724.3	1683.2	1650.2	1618.4	1583.4
35°	1657.5	1699.3	1735.0	1773.4	1746.2	1727.0	1710.1	1668.6	1635.2	1602.6	1566.9
35.5°	1642.5	1684.4	1720.8	1760.0	1732.0	1712.8	1695.1	1653.3	1619.5	1586.1	1550.4
36°	1626.4	1669.4	1706.3	1746.2	1717.8	1697.4	1680.5	1637.9	1603.4	1570.0	1533.1
36.5°	1611.1	1654.4	1691.7	1732.0	1702.8	1682.1	1665.2	1622.2	1586.9	1553.1	1516.2
37°	1595.7	1639.1	1676.3	1717.8	1687.4	1666.7	1649.4	1606.5	1570.8	1536.2	1499.0
37.5°	1579.2	1623.7	1661.7	1702.8	1671.7	1651.0	1633.7	1589.9	1554.2	1519.3	1481.7
38°	1562.7	1607.6	1646.0	1687.8	1656.4	1635.2	1618.0	1573.4	1537.7	1502.0	1463.7
38.5°	1546.2	1591.5	1630.3	1672.5	1639.8	1619.1	1601.5	1556.9	1520.1	1484.4	1445.2
39°	1529.3	1575.0	1614.1	1657.1	1624.1	1602.2	1585.0	1539.7	1502.8	1466.3	1427.2
39.5°	1512.8	1558.5	1598.0	1641.0	1607.2	1585.7	1568.1	1522.4	1485.5	1447.9	1408.8
40°	1495.5	1542.0	1581.5	1624.9	1590.7	1568.8	1551.2	1505.5	1467.9	1429.9	1390.0
40.5°	1477.9	1524.7	1565.0	1608.4	1573.4	1551.6	1533.9	1487.8	1450.2	1411.5	1371.9
41°	1460.6	1507.4	1547.7	1591.9	1556.6	1533.9	1516.6	1470.2	1431.8	1392.6	1352.3
41.5°	1442.9	1490.1	1530.4	1574.6	1539.3	1516.6	1498.6	1451.8	1413.8	1374.2	1333.5
42°	1424.9	1472.9	1513.2	1557.7	1521.6	1499.0	1480.9	1433.7	1395.3	1355.4	1314.3
42.5°	1406.8	1455.2	1495.9	1540.4	1503.6	1480.9	1463.7	1415.7	1376.9	1336.6	1295.1
43°	1388.8	1437.2	1477.9	1523.2	1485.5	1462.9	1445.2	1397.2	1358.5	1317.0	1275.2
43.5°	1370.8	1419.1	1460.2	1505.1	1467.5	1444.8	1426.4	1378.8	1339.7	1297.8	1256.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1315.1	1364.2	1405.7	1451.4	1411.8	1388.8	1370.8	1322.0	1283.2	1240.6	1199.2
45.5°	1296.3	1345.4	1387.7	1432.9	1393.0	1370.0	1352.0	1303.2	1264.4	1222.2	1180.8
46°	1277.5	1326.6	1368.8	1414.5	1374.6	1350.8	1332.8	1284.4	1245.2	1203.4	1162.7
46.5°	1258.3	1307.8	1350.0	1395.7	1355.4	1332.0	1313.6	1265.2	1226.4	1184.6	1144.3
47°	1239.9	1289.4	1331.2	1376.9	1336.2	1313.6	1295.1	1246.8	1208.4	1166.5	1124.7
47.5°	1221.4	1270.6	1312.8	1358.1	1317.8	1295.1	1276.7	1228.4	1190.0	1147.0	1104.0
48°	1203.0	1251.8	1293.6	1338.9	1299.7	1276.3	1258.3	1209.9	1170.0	1125.9	1081.3
48.5°	1183.8	1233.3	1275.2	1320.5	1280.9	1258.7	1239.5	1190.3	1148.9	1102.8	1055.6
49°	1165.8	1214.9	1256.4	1301.7	1262.5	1239.5	1221.1	1168.5	1126.6	1077.5	1028.4
49.5°	1145.4	1195.7	1238.3	1282.5	1244.1	1221.1	1201.5	1146.2	1102.1	1050.2	998.8
50°	1124.7	1176.5	1219.5	1264.0	1225.3	1200.3	1180.0	1122.4	1075.6	1021.5	969.2
50.5°	1102.1	1155.4	1199.9	1245.6	1204.6	1178.8	1157.7	1097.1	1047.9	993.0	939.7
51°	1076.3	1132.8	1178.8	1226.8	1182.7	1155.0	1133.5	1069.8	1019.5	962.7	908.6
51.5°	1047.6	1107.4	1156.2	1206.9	1159.6	1127.8	1106.7	1040.3	988.4	932.0	877.5
52°	1018.4	1080.6	1132.4	1185.4	1133.5	1100.1	1077.9	1008.8	956.6	900.5	845.6
52.5°	988.1	1051.8	1105.9	1162.7	1105.1	1072.1	1049.5	976.5	924.3	868.7	814.2
53°	957.0	1021.5	1078.3	1138.5	1076.7	1042.2	1018.4	943.5	891.3	835.3	782.3
53.5°	924.7	990.0	1048.3	1112.4	1046.4	1011.9	987.3	909.4	857.9	802.3	750.4
54°	892.9	958.9	1016.8	1084.0	1015.7	981.1	955.0	875.6	823.4	769.6	719.0
54.5°	860.2	926.3	983.4	1053.7	983.8	950.4	922.4	842.2	789.2	736.6	686.7
55°	827.6	893.2	950.1	1021.5	952.4	918.6	888.6	806.9	753.9	702.5	654.1
55.5°	794.6	858.7	915.9	988.4	919.7	885.9	855.2	773.1	719.4	669.5	622.6
56°	762.3	824.5	881.0	954.3	886.7	852.6	821.5	738.5	684.4	636.4	590.8
56.5°	728.6	790.0	845.3	919.7	852.9	818.8	787.3	705.5	650.3	603.4	559.3
57°	695.9	754.7	809.2	884.8	818.8	785.0	752.7	672.1	616.9	571.2	528.6
57.5°	662.9	720.1	774.2	849.5	783.8	751.2	719.0	639.5	583.9	538.9	498.6
58°	629.5	684.8	739.3	814.9	749.7	716.7	685.2	606.5	551.2	507.1	468.7
58.5°	596.9	649.5	703.6	780.0	714.7	681.4	651.8	573.9	519.0	476.4	439.1
59°	564.7	615.7	668.7	745.5	679.8	646.4	618.0	541.2	488.3	445.3	410.7
59.5°	532.8	581.9	634.9	711.7	645.3	611.5	585.0	510.5	458.3	415.7	383.5
60°	500.6	548.5	601.9	677.5	610.7	577.3	552.4	479.1	429.2	386.5	357.4
60.5°	469.1	516.3	568.9	644.1	576.9	543.2	520.1	449.1	400.7	360.8	331.3
61°	439.5	484.4	535.1	610.3	543.9	509.8	488.7	418.8	372.7	335.1	305.2
61.5°	409.2	453.3	503.6	578.9	511.7	477.1	457.6	390.4	346.6	309.8	279.1
62°	380.8	423.0	472.9	545.5	479.4	444.9	426.5	363.9	320.5	284.1	253.0
62.5°	353.2	393.8	443.0	514.0	447.6	413.0	396.1	337.0	294.0	258.3	230.7
63°	326.7	365.8	413.4	482.9	416.9	383.1	368.9	310.5	267.9	236.5	209.6
63.5°	300.6	338.2	384.2	452.2	386.9	355.1	341.3	284.1	241.4	216.1	190.0
64°	276.0	312.1	356.6	421.9	359.3	327.4	313.6	257.6	217.3	196.5	172.0
64.5°	252.2	286.7	329.7	391.9	332.0	299.4	286.4	233.8	194.2	178.1	155.5
65°	229.2	262.9	304.0	363.5	304.8	271.8	258.7	211.5	173.1	161.2	140.9
65.5°	207.3	239.9	279.4	335.9	277.1	247.2	233.8	190.4	153.2	145.5	127.8
66°	186.6	219.2	255.7	308.6	249.9	223.4	210.7	170.8	136.3	132.0	117.1



TEST NUMBER: P776355

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	134.7	162.8	190.4	233.0	183.1	162.4	151.2	122.5	99.0	99.8	93.3
68°	124.4	146.6	171.2	210.7	163.1	145.1	135.5	110.6	92.1	92.5	87.9
68.5°	114.4	133.6	153.5	189.2	146.3	129.4	121.7	100.6	87.9	86.4	84.1
69°	104.0	123.2	138.2	169.7	130.1	115.9	110.2	92.5	84.4	82.1	80.6
69.5°	93.7	113.2	127.8	151.2	116.7	104.4	100.2	86.8	81.0	78.7	77.5
70°	88.3	102.9	117.5	134.4	104.8	95.6	92.5	82.5	77.2	75.2	74.1
70.5°	84.4	92.9	107.5	123.6	96.0	88.3	86.8	79.1	73.7	71.8	71.0
71°	81.0	86.4	97.5	112.5	88.7	84.1	82.9	75.6	69.9	68.7	67.9
71.5°	77.5	81.8	87.1	101.7	83.7	80.6	79.5	72.2	66.4	65.3	64.5
72°	74.1	78.3	82.9	91.0	80.2	77.2	76.4	68.7	63.0	61.8	61.4
72.5°	70.2	74.9	79.8	85.2	76.8	73.7	72.9	65.3	59.5	58.7	58.3
73°	66.8	71.4	76.4	81.8	73.7	70.6	69.5	61.8	56.4	55.7	55.3
73.5°	63.3	67.9	72.9	78.3	70.2	67.2	66.4	58.7	53.4	52.6	52.6
74°	60.3	64.5	69.5	75.2	66.8	64.1	63.0	55.3	50.3	49.5	49.5
74.5°	56.8	61.4	66.4	71.8	63.7	60.6	59.9	52.2	47.2	46.4	46.8
75°	53.7	58.0	63.0	68.3	60.6	57.6	56.8	49.1	44.5	43.8	44.1
75.5°	50.7	54.9	59.9	65.3	57.6	54.5	53.7	46.4	41.8	41.1	41.5
76°	47.6	51.8	56.4	61.8	54.5	51.8	50.7	43.4	39.2	38.4	39.2
76.5°	44.9	48.8	53.7	58.7	51.4	48.8	48.0	40.7	36.5	35.7	36.5
77°	41.8	46.1	50.7	55.7	48.8	46.1	45.3	38.0	33.8	33.4	34.2
77.5°	39.2	43.0	47.6	52.6	46.1	43.4	42.6	35.3	31.5	31.1	31.9
78°	36.9	40.3	44.9	49.9	43.4	40.7	39.9	33.0	29.2	28.8	29.6
78.5°	34.2	37.6	42.2	46.8	40.7	38.4	37.2	30.7	26.9	26.1	27.3
79°	31.9	35.3	39.5	44.1	38.0	35.7	34.9	28.4	24.6	23.8	25.3
79.5°	29.6	32.6	36.9	41.8	35.7	33.8	32.6	26.1	22.3	21.9	23.0
80°	27.3	30.3	34.5	39.2	33.4	31.5	30.3	23.8	20.3	19.6	20.7
80.5°	25.0	28.0	32.2	36.5	31.1	29.2	28.0	21.5	18.4	17.7	18.8
81°	23.0	25.7	29.9	34.2	28.8	26.9	25.7	19.6	16.5	15.7	17.3
81.5°	21.1	23.8	27.6	31.9	26.5	25.0	23.4	17.3	14.6	13.8	15.4
82°	18.8	21.5	25.3	29.6	24.2	22.6	21.5	15.7	13.1	11.9	13.4
82.5°	16.9	19.6	23.4	27.6	22.3	20.7	19.6	13.8	11.1	10.4	11.9
83°	15.4	17.7	21.5	25.3	20.3	18.8	17.7	11.9	9.6	8.8	10.4
83.5°	13.4	16.1	19.6	23.4	18.8	16.9	15.7	10.4	8.1	7.3	8.8
84°	11.9	14.2	17.7	21.5	16.9	15.4	14.2	8.8	6.5	5.8	7.3
84.5°	10.4	12.7	15.7	19.6	15.0	13.4	12.3	7.3	5.4	4.6	6.1
85°	8.4	10.7	14.2	17.7	13.4	11.9	10.7	6.1	4.2	3.8	5.0
85.5°	6.9	9.2	12.3	15.7	11.9	10.4	9.2	5.0	3.1	3.1	3.8
86°	5.8	7.7	10.7	14.2	10.4	8.8	8.1	4.2	2.7	2.3	2.7
86.5°	4.2	6.1	9.6	12.7	8.8	7.3	6.5	3.1	1.9	1.5	1.5
87°	3.5	5.0	8.1	11.1	7.3	6.1	5.4	2.3	1.2	0.8	0.8
87.5°	2.7	4.2	6.9	9.6	5.8	4.6	4.2	1.5	0.8	0.4	0.0
88°	1.9	3.5	5.4	8.1	4.6	3.5	3.1	0.8	0.4	0.0	0.0
88.5°	1.2	2.3	4.2	6.5	3.5	2.3	1.9	0.4	0.0	0.0	0.0



TEST NUMBER: P776355
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

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: P776355

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2124.3	2124.3	2124.3	2124.3	2124.3	2124.3
0.5°	2118.9	2123.5	2124.3	2124.3	2125.4	2125.4
1°	2117.0	2122.0	2122.7	2123.1	2125.0	2125.4
1.5°	2114.7	2120.1	2121.2	2122.0	2124.3	2125.4
2°	2112.4	2118.1	2119.7	2120.4	2123.5	2125.0
2.5°	2110.1	2115.8	2117.8	2118.9	2122.4	2124.3
3°	2107.4	2113.5	2115.8	2117.4	2121.2	2123.9
3.5°	2104.7	2111.2	2113.5	2115.1	2120.1	2122.7
4°	2102.0	2108.5	2111.2	2113.1	2118.1	2122.0
4.5°	2098.9	2105.9	2108.5	2110.8	2116.6	2120.4
5°	2095.5	2102.8	2105.5	2108.2	2114.7	2119.3
5.5°	2092.0	2099.7	2102.8	2105.5	2112.8	2117.8
6°	2088.2	2096.3	2099.7	2102.8	2110.5	2116.2
6.5°	2084.4	2092.8	2096.6	2099.7	2108.2	2114.3
7°	2080.5	2089.0	2093.2	2096.6	2105.5	2112.4
7.5°	2076.3	2085.1	2089.3	2093.2	2102.8	2110.1
8°	2072.1	2081.3	2085.5	2089.7	2100.1	2107.8
8.5°	2067.5	2077.1	2081.7	2085.9	2097.0	2105.1
9°	2062.9	2072.8	2077.4	2082.1	2093.6	2102.4
9.5°	2058.3	2068.2	2073.2	2077.8	2090.1	2099.3
10°	2052.9	2063.2	2068.6	2073.6	2086.3	2096.6
10.5°	2047.9	2058.6	2064.0	2069.0	2082.4	2093.2
11°	2042.1	2053.3	2059.0	2064.4	2078.2	2089.7
11.5°	2036.8	2047.9	2053.6	2059.4	2074.4	2085.9
12°	2031.0	2042.5	2048.3	2054.4	2070.2	2082.1
12.5°	2024.9	2036.8	2042.9	2049.0	2065.2	2077.8
13°	2018.3	2030.6	2037.1	2043.7	2060.6	2073.6
13.5°	2012.2	2024.5	2031.0	2037.9	2055.2	2069.0
14°	2005.7	2018.3	2024.9	2032.2	2049.8	2064.4
14.5°	1998.8	2011.8	2018.3	2025.6	2044.4	2059.8
15°	1991.8	2004.9	2012.2	2019.9	2039.1	2054.8
15.5°	1984.6	1998.0	2005.3	2013.0	2032.9	2049.4
16°	1977.3	1990.7	1998.4	2006.1	2026.8	2044.1
16.5°	1969.6	1983.4	1990.7	1999.1	2020.3	2038.3
17°	1961.5	1975.7	1983.4	1991.8	2013.7	2032.2
17.5°	1953.8	1967.7	1975.7	1984.6	2007.2	2026.0
18°	1945.4	1960.0	1967.7	1976.9	2000.3	2019.9
18.5°	1937.0	1951.2	1959.6	1968.8	1993.0	2013.3
19°	1928.1	1943.1	1951.2	1960.8	1985.3	2006.4
19.5°	1918.9	1934.3	1942.7	1952.3	1977.6	1999.5
20°	1909.7	1925.1	1933.9	1943.9	1970.0	1992.2
20.5°	1900.5	1916.2	1924.3	1935.0	1961.9	1984.9
21°	1890.9	1906.2	1915.1	1925.8	1953.5	1977.3

TEST NUMBER: P776355

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1860.2	1876.3	1885.9	1897.0	1927.0	1952.3
23°	1849.8	1866.3	1875.2	1886.7	1917.8	1943.9
23.5°	1838.7	1855.6	1864.8	1876.3	1908.2	1935.0
24°	1827.6	1844.4	1854.0	1865.6	1898.6	1925.8
24.5°	1816.4	1833.3	1842.9	1854.8	1888.6	1916.6
25°	1804.5	1821.8	1831.4	1844.1	1877.8	1906.6
25.5°	1792.6	1810.3	1819.5	1832.5	1867.1	1896.7
26°	1780.7	1798.0	1808.0	1821.0	1856.3	1886.3
26.5°	1768.1	1786.1	1795.7	1808.7	1845.2	1876.3
27°	1755.4	1773.4	1783.4	1796.5	1833.7	1865.2
27.5°	1742.7	1760.8	1770.4	1784.6	1822.2	1854.4
28°	1729.7	1747.7	1757.7	1771.9	1810.3	1842.9
28.5°	1715.9	1734.3	1744.6	1758.8	1798.0	1831.8
29°	1702.0	1720.8	1730.8	1745.4	1785.7	1819.9
29.5°	1688.2	1707.0	1717.4	1732.4	1772.7	1807.6
30°	1673.6	1693.6	1703.2	1718.2	1759.6	1795.3
30.5°	1659.4	1679.0	1689.0	1704.7	1746.6	1783.0
31°	1644.5	1664.4	1674.8	1690.1	1733.1	1770.0
31.5°	1629.1	1650.2	1660.6	1675.9	1719.3	1756.9
32°	1613.7	1635.2	1645.6	1661.0	1705.1	1743.5
32.5°	1598.4	1619.9	1630.3	1646.4	1690.9	1729.7
33°	1582.3	1604.9	1615.7	1631.4	1676.3	1715.9
33.5°	1566.1	1589.6	1600.3	1616.0	1661.3	1701.6
34°	1550.0	1573.4	1584.6	1600.3	1646.4	1687.1
34.5°	1533.1	1557.3	1568.5	1585.0	1631.0	1672.9
35°	1516.6	1541.2	1552.7	1568.5	1615.7	1657.5
35.5°	1499.4	1524.7	1536.6	1552.3	1599.9	1642.5
36°	1482.5	1508.2	1520.1	1535.8	1583.8	1626.4
36.5°	1464.8	1491.7	1504.0	1519.3	1567.7	1611.1
37°	1447.5	1474.8	1487.1	1502.8	1550.8	1595.7
37.5°	1429.5	1457.5	1470.2	1485.9	1534.7	1579.2
38°	1411.8	1440.2	1453.3	1468.6	1517.8	1562.7
38.5°	1393.0	1423.4	1436.0	1451.0	1500.9	1546.2
39°	1375.4	1405.3	1419.1	1434.1	1483.2	1529.3
39.5°	1356.6	1387.7	1401.9	1416.8	1466.0	1512.8
40°	1338.1	1370.4	1384.2	1399.2	1448.7	1495.5
40.5°	1319.7	1352.7	1366.5	1381.1	1431.0	1477.9
41°	1300.9	1334.3	1348.5	1363.5	1413.4	1460.6
41.5°	1281.7	1316.3	1330.8	1345.4	1394.9	1442.9
42°	1262.9	1298.2	1312.8	1327.4	1377.3	1424.9
42.5°	1243.7	1280.2	1294.8	1309.3	1358.9	1406.8
43°	1225.3	1262.1	1276.7	1291.3	1340.8	1388.8
43.5°	1206.1	1243.3	1258.7	1272.5	1322.4	1370.8

TEST NUMBER: P776355

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1152.0	1188.4	1203.8	1217.2	1266.7	1315.1
45.5°	1133.9	1170.4	1185.4	1198.8	1247.5	1296.3
46°	1114.7	1152.0	1167.3	1180.8	1229.1	1277.5
46.5°	1094.8	1133.9	1148.9	1161.9	1210.3	1258.3
47°	1073.3	1115.5	1131.2	1143.9	1192.3	1239.9
47.5°	1048.7	1095.2	1112.4	1125.5	1173.8	1221.4
48°	1021.8	1074.8	1092.1	1105.5	1155.4	1203.0
48.5°	992.7	1051.8	1071.0	1084.8	1136.6	1183.8
49°	962.7	1026.1	1049.5	1063.7	1116.6	1165.8
49.5°	932.4	998.0	1023.0	1039.1	1096.3	1145.4
50°	902.1	968.1	995.3	1011.9	1074.0	1124.7
50.5°	870.2	937.0	964.3	981.9	1048.7	1102.1
51°	838.3	905.9	933.5	951.2	1020.3	1076.3
51.5°	806.5	873.7	900.9	919.7	990.0	1047.6
52°	774.2	841.8	869.4	887.5	959.3	1018.4
52.5°	742.8	808.8	837.2	854.9	928.2	988.1
53°	710.5	775.0	803.8	822.2	897.1	957.0
53.5°	679.4	742.4	769.3	788.4	864.8	924.7
54°	648.0	709.4	736.6	755.4	832.6	892.9
54.5°	616.5	677.9	703.2	722.4	800.0	860.2
55°	585.8	645.3	669.5	690.9	767.0	827.6
55.5°	555.1	613.4	637.2	658.3	734.3	794.6
56°	525.5	582.3	605.0	626.5	701.7	762.3
56.5°	497.1	551.2	573.1	595.4	669.5	728.6
57°	467.5	520.9	542.0	565.0	637.2	695.9
57.5°	439.1	491.3	511.3	533.6	605.7	662.9
58°	410.7	461.8	481.4	503.6	574.3	629.5
58.5°	384.6	433.8	453.3	475.2	543.2	596.9
59°	358.9	406.5	425.7	446.4	513.6	564.7
59.5°	333.6	379.6	399.2	418.8	484.0	532.8
60°	307.9	354.3	373.1	391.9	455.3	500.6
60.5°	282.5	328.6	348.2	365.4	427.2	469.1
61°	256.8	304.4	324.0	340.1	398.8	439.5
61.5°	234.5	281.8	301.3	315.1	371.6	409.2
62°	213.0	260.3	279.1	292.1	345.1	380.8
62.5°	193.5	239.1	258.0	269.5	319.4	353.2
63°	175.0	219.6	238.0	247.6	294.4	326.7
63.5°	158.9	201.1	219.2	227.6	271.0	300.6
64°	143.6	183.9	201.5	208.4	248.0	276.0
64.5°	130.5	167.7	184.3	190.8	225.7	252.2
65°	119.8	153.2	168.9	173.9	205.0	229.2
65.5°	110.2	139.3	154.3	158.5	185.8	207.3
66°	102.1	129.7	140.9	144.3	168.5	186.6



TEST NUMBER: P776355

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	84.8	101.3	111.7	111.7	129.0	134.7
68°	81.8	91.7	102.1	105.2	120.1	124.4
68.5°	78.3	86.4	92.5	98.3	110.9	114.4
69°	75.2	82.9	86.8	91.4	102.1	104.0
69.5°	72.2	79.8	82.9	84.4	92.9	93.7
70°	69.1	76.8	79.8	81.4	87.1	88.3
70.5°	66.0	73.3	76.8	77.9	82.9	84.4
71°	63.0	70.2	73.7	74.9	79.5	81.0
71.5°	59.9	67.2	70.6	71.8	76.0	77.5
72°	56.8	64.1	67.2	68.7	72.5	74.1
72.5°	54.1	61.0	64.1	65.6	69.5	70.2
73°	51.4	58.0	61.0	62.6	66.0	66.8
73.5°	48.4	55.3	58.3	59.5	63.0	63.3
74°	45.7	52.2	55.3	56.4	59.5	60.3
74.5°	43.4	49.5	52.6	53.4	56.4	56.8
75°	40.7	46.8	49.9	50.7	53.4	53.7
75.5°	38.4	44.1	47.2	48.0	50.3	50.7
76°	35.7	41.8	44.5	45.3	47.6	47.6
76.5°	33.4	39.2	41.8	42.6	44.5	44.9
77°	31.5	36.9	39.5	39.9	41.8	41.8
77.5°	29.2	34.5	36.9	37.2	39.2	39.2
78°	27.3	32.2	34.5	34.9	36.5	36.9
78.5°	25.0	29.9	32.2	32.6	34.2	34.2
79°	23.0	28.0	29.9	30.3	31.9	31.9
79.5°	21.1	25.7	28.0	28.0	29.2	29.6
80°	19.2	23.8	25.7	26.1	27.3	27.3
80.5°	17.3	21.9	23.8	23.8	25.0	25.0
81°	15.7	20.0	21.9	21.9	22.6	23.0
81.5°	13.8	18.0	20.0	20.0	20.7	21.1
82°	12.3	16.5	18.0	18.0	18.8	18.8
82.5°	10.7	14.6	16.5	16.5	16.9	16.9
83°	9.2	13.1	14.6	14.6	15.0	15.4
83.5°	7.7	11.5	13.1	13.1	13.1	13.4
84°	6.1	10.0	11.5	11.5	11.5	11.9
84.5°	4.6	8.4	10.0	10.0	10.0	10.4
85°	3.5	6.9	8.4	8.4	8.1	8.4
85.5°	2.3	5.4	6.9	6.9	6.9	6.9
86°	1.2	3.8	5.4	5.8	5.8	5.8
86.5°	0.4	2.7	4.2	4.2	4.6	4.2
87°	0.0	1.5	2.7	3.1	3.5	3.5
87.5°	0.0	0.8	1.5	1.9	2.7	2.7
88°	0.0	0.0	0.8	0.8	1.9	1.9
88.5°	0.0	0.0	0.0	0.4	1.2	1.2



TEST NUMBER: P776355
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRMW-4000lm-2700K

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°	1969.2	1992.6	2012.6	2032.5	2021.4	2010.3	1999.1	1974.6	1953.8	1932.3	1910.1
22°	1960.8	1985.3	2005.7	2026.4	2014.9	2003.7	1991.8	1966.5	1945.4	1923.9	1900.9



44°	1352.7	1401.1	1442.5	1487.8	1449.1	1426.0	1408.0	1360.0	1320.9	1278.6	1236.8
44.5°	1333.5	1382.3	1423.7	1469.8	1430.3	1408.0	1389.2	1341.2	1301.7	1259.8	1218.0



66.5°	167.7	198.8	233.0	283.3	226.1	201.9	188.9	153.2	121.3	119.8	107.9
67°	150.9	180.0	211.1	257.2	203.4	181.2	169.3	136.7	109.0	109.0	99.8



89°	0.8	1.5	3.1	5.4	2.3	1.2	0.8	0.0	0.0	0.0	0.0
89.5°	0.4	0.8	1.9	3.8	1.2	0.4	0.4	0.0	0.0	0.0	0.0

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21.5°	1880.9	1896.7	1905.5	1916.2	1945.0	1969.2
22°	1870.5	1887.1	1895.9	1906.6	1936.2	1960.8



44°	1188.0	1224.9	1240.3	1254.5	1304.0	1352.7
44.5°	1170.0	1206.5	1221.8	1235.6	1285.2	1333.5



66.5°	95.2	120.1	131.3	131.3	152.4	167.7
67°	89.4	110.6	121.3	120.1	138.2	150.9

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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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(END OF REPORT)