

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: P776256

Luminaire Tested: HCDJBS3040CSD-HCD41TRMW-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776256
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B030)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

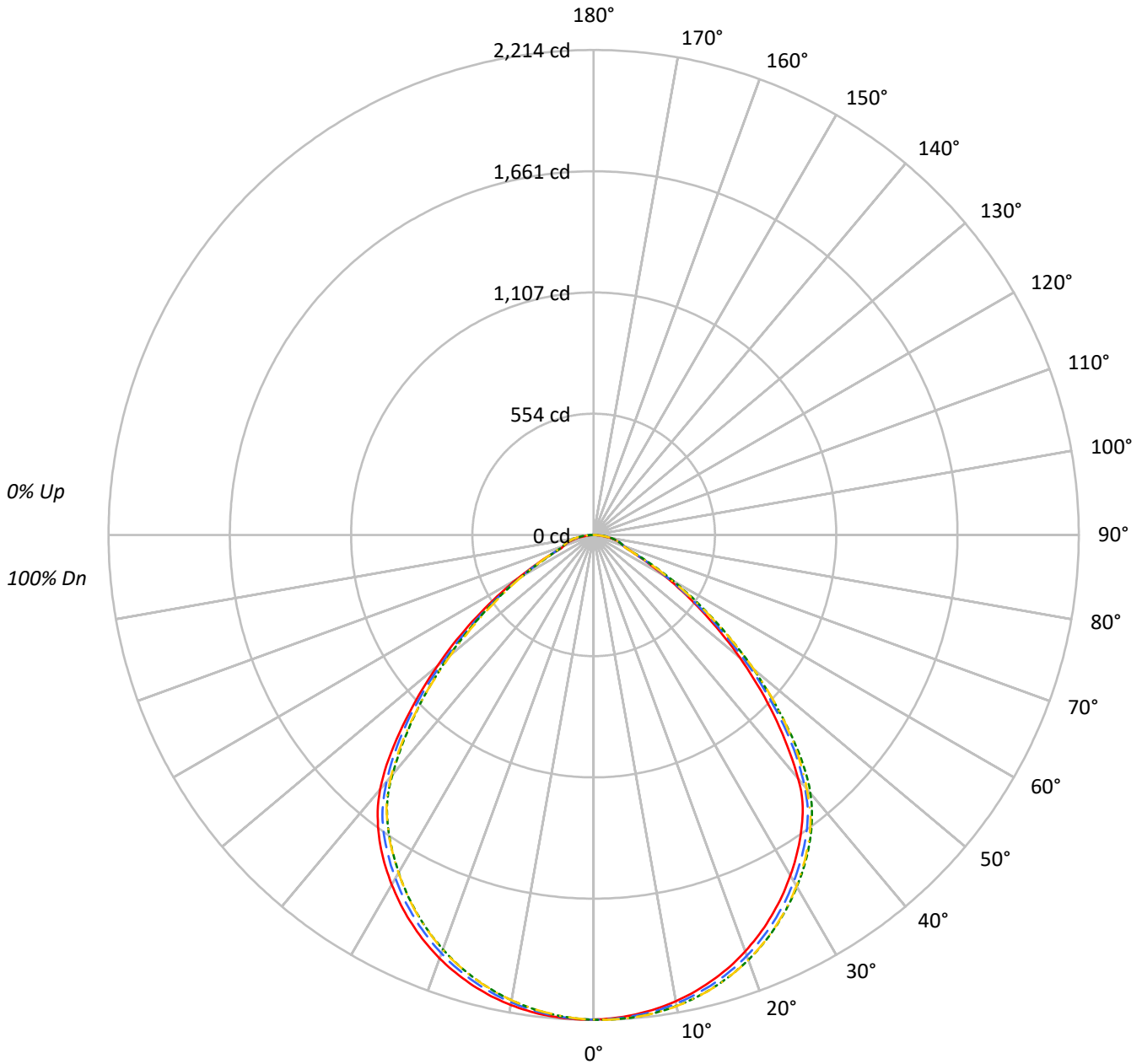
Lumens per Lamp: N/A
Luminaire Lumens: 4619.8 lumens
Efficiency: N/A
Efficacy: 120.0 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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								
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	90	86	82	87	84	81	84	81	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47								
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42								
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38								
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34								
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	43	37	33	31								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	278430	278430	278430	278430
5°	277611	279102	278761	277422
10°	276170	279019	278432	275671
15°	274077	278207	277438	273151
20°	270920	276478	275433	269608
25°	266542	273665	272249	264750
30°	260905	269494	267852	258682
35°	253696	263867	261701	251161
40°	238476	252753	249089	234550
45°	206989	224128	219323	204266
50°	170433	186292	182552	168965
55°	131626	145624	142794	131626
60°	93934	104581	102417	94312
65°	63786	68342	66585	63905
70°	53170	52876	53317	54311
75°	55967	56356	54071	59030
80°	52254	58197	47398	62400
85°	28879	53138	20360	60502

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 227688 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.2	4.5
10°-20°	596.7	12.9
20°-30°	892.6	19.3
30°-40°	1043.7	22.6
40°-50°	923.1	20.0
50°-60°	561.8	12.2
60°-70°	234.1	5.1
70°-80°	121.5	2.6
80°-90°	37.2	0.8
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°	1698.5	36.8
0°-40°	2742.2	59.4
0°-60°	4227.1	91.5
0°-90°	4619.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4619.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2212	2212	2212	2212	2212	
5°	2198	2209	2207	2196	2198	209
15°	2104	2135	2129	2096	2104	593
25°	1920	1971	1961	1907	1920	884
35°	1651	1718	1703	1635	1651	1028
45°	1163	1259	1232	1148	1163	894
55°	600	664	651	600	600	540
65°	214	230	224	215	214	226
75°	115	116	111	121	115	119
85°	20	37	14	42	20	30
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°	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4
0.5°	2212.0	2212.4	2212.8	2212.0	2213.6	2214.0	2213.2	2212.8	2212.8	2212.8	2212.4
1°	2211.3	2212.0	2212.4	2212.4	2214.0	2214.4	2214.0	2213.2	2212.8	2212.8	2212.0
1.5°	2210.1	2211.3	2212.0	2212.4	2214.0	2214.8	2214.0	2213.2	2212.8	2212.4	2211.3
2°	2208.9	2210.1	2211.6	2212.0	2214.0	2214.8	2214.0	2213.2	2212.4	2211.6	2210.5
2.5°	2207.3	2208.9	2210.9	2211.6	2213.6	2214.8	2214.0	2212.8	2212.0	2210.9	2209.3
3°	2205.8	2207.7	2209.7	2210.9	2213.2	2214.4	2213.2	2212.4	2211.3	2210.1	2208.1
3.5°	2204.2	2206.2	2208.5	2210.1	2212.4	2214.0	2212.8	2211.6	2210.5	2208.5	2206.6
4°	2202.2	2204.2	2206.9	2208.9	2211.6	2213.2	2211.6	2210.5	2209.3	2207.3	2204.6
4.5°	2199.9	2202.2	2205.0	2207.3	2210.5	2212.0	2210.9	2209.3	2207.7	2205.8	2202.6
5°	2197.5	2200.3	2203.0	2205.8	2209.3	2210.9	2209.3	2208.1	2206.6	2203.8	2200.3
5.5°	2194.8	2197.5	2201.1	2204.2	2207.3	2209.7	2207.7	2206.2	2204.6	2201.5	2197.9
6°	2191.7	2195.2	2198.7	2202.2	2205.8	2207.7	2206.2	2204.6	2202.6	2199.5	2195.2
6.5°	2188.5	2192.1	2196.4	2199.9	2203.8	2206.2	2204.2	2202.6	2200.7	2197.2	2192.5
7°	2185.4	2188.9	2193.6	2197.5	2201.5	2203.8	2201.9	2200.3	2197.9	2194.4	2189.7
7.5°	2181.9	2185.8	2190.5	2194.8	2199.1	2201.9	2199.5	2197.9	2195.2	2191.3	2186.2
8°	2178.4	2182.3	2187.8	2192.1	2196.0	2199.1	2196.8	2195.2	2192.5	2188.1	2182.7
8.5°	2174.4	2178.8	2183.8	2188.9	2193.2	2196.8	2194.0	2192.1	2189.3	2185.0	2179.1
9°	2170.1	2174.8	2180.3	2185.8	2190.1	2193.6	2190.9	2188.9	2186.2	2181.1	2175.2
9.5°	2165.8	2170.5	2176.8	2181.9	2187.0	2190.5	2187.8	2185.8	2182.7	2177.6	2170.9
10°	2161.1	2166.2	2172.5	2178.4	2183.4	2187.0	2184.2	2182.3	2178.8	2173.7	2166.6
10.5°	2156.4	2161.9	2168.2	2174.1	2179.5	2183.4	2180.3	2178.4	2174.8	2169.4	2162.3
11°	2151.3	2156.8	2163.9	2170.1	2175.6	2179.5	2176.4	2174.1	2170.9	2164.7	2157.2
11.5°	2146.2	2152.1	2159.2	2165.8	2171.3	2175.6	2172.1	2170.1	2166.2	2160.0	2152.1
12°	2140.8	2146.6	2154.1	2160.7	2167.0	2171.3	2167.8	2165.8	2161.9	2155.3	2147.0
12.5°	2134.9	2141.2	2149.0	2156.0	2162.3	2167.0	2163.1	2160.7	2157.2	2150.2	2141.6
13°	2129.4	2135.7	2143.5	2150.9	2157.2	2162.3	2158.0	2156.0	2152.1	2144.7	2136.1
13.5°	2122.8	2129.8	2137.6	2145.9	2152.1	2157.2	2152.9	2150.9	2146.6	2139.2	2130.2
14°	2116.9	2123.9	2132.2	2140.4	2146.6	2152.1	2147.8	2145.5	2141.2	2133.3	2123.9
14.5°	2110.2	2117.7	2125.9	2134.5	2141.2	2146.6	2141.9	2139.6	2135.3	2127.5	2117.7
15°	2103.6	2111.0	2120.0	2128.6	2135.3	2141.2	2136.5	2134.1	2129.4	2121.2	2111.0
15.5°	2096.5	2104.0	2113.4	2122.0	2129.4	2134.9	2130.2	2127.8	2123.1	2114.9	2104.3
16°	2089.1	2096.9	2106.3	2115.7	2123.1	2129.0	2123.5	2121.6	2116.5	2107.9	2097.3
16.5°	2081.6	2089.9	2099.7	2109.0	2116.5	2122.4	2117.3	2114.9	2110.2	2101.2	2089.9
17°	2074.2	2082.4	2092.6	2102.0	2109.8	2115.7	2110.6	2107.9	2102.8	2094.2	2082.4
17.5°	2066.4	2074.6	2085.2	2095.3	2102.8	2109.0	2103.2	2100.8	2095.7	2086.3	2074.6
18°	2058.1	2066.8	2077.3	2087.9	2095.7	2101.6	2096.1	2093.8	2088.7	2078.9	2066.8
18.5°	2049.5	2058.5	2069.5	2080.1	2088.3	2094.2	2088.7	2086.3	2080.9	2071.1	2058.5
19°	2040.9	2050.3	2061.3	2072.2	2080.5	2086.7	2080.9	2078.5	2073.4	2063.2	2050.3
19.5°	2031.9	2041.7	2053.1	2064.4	2072.6	2078.9	2072.6	2070.7	2065.2	2054.6	2041.7
20°	2022.9	2032.7	2044.4	2056.2	2064.4	2071.1	2064.4	2062.1	2056.6	2046.4	2032.7
20.5°	2013.9	2023.7	2035.8	2047.6	2056.2	2062.5	2055.8	2053.4	2048.0	2037.4	2023.3
21°	2003.7	2014.3	2026.4	2039.0	2047.6	2054.2	2047.2	2044.8	2039.3	2028.4	2014.3



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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°	1974.0	1984.9	1998.2	2011.2	2020.6	2027.2	2019.4	2017.4	2011.5	2000.2	1984.9
23°	1963.4	1974.7	1988.1	2001.8	2011.2	2017.8	2009.6	2007.6	2001.8	1990.4	1974.3
23.5°	1952.8	1964.2	1977.9	1991.6	2001.4	2008.0	1999.8	1997.4	1992.0	1979.8	1964.2
24°	1941.8	1953.6	1967.7	1981.8	1991.2	1998.2	1989.6	1987.3	1981.8	1969.6	1953.6
24.5°	1930.9	1942.6	1957.1	1971.2	1981.0	1988.1	1979.4	1977.1	1971.2	1959.1	1942.6
25°	1919.5	1931.3	1946.2	1960.6	1970.8	1977.5	1968.5	1966.5	1960.6	1948.5	1931.7
25.5°	1908.2	1920.3	1935.2	1950.1	1960.2	1966.9	1957.9	1955.5	1950.1	1937.5	1920.3
26°	1896.0	1909.0	1923.8	1939.1	1949.3	1956.3	1946.9	1944.6	1939.1	1926.2	1908.6
26.5°	1884.7	1897.2	1912.5	1928.1	1937.9	1945.4	1935.6	1933.2	1927.4	1915.2	1897.2
27°	1872.5	1885.1	1900.7	1916.4	1927.0	1934.4	1923.8	1921.9	1916.0	1903.5	1885.5
27.5°	1860.0	1873.3	1889.4	1905.0	1915.2	1922.7	1912.5	1910.1	1904.6	1891.3	1873.3
28°	1847.5	1860.8	1876.8	1893.3	1903.5	1910.9	1900.3	1898.4	1892.5	1880.0	1860.8
28.5°	1834.6	1848.3	1864.7	1881.1	1892.1	1899.2	1888.2	1886.2	1880.4	1867.1	1848.3
29°	1822.0	1835.3	1852.2	1869.0	1879.6	1887.0	1875.7	1874.1	1868.2	1855.3	1835.7
29.5°	1808.7	1822.8	1839.6	1856.5	1867.4	1874.9	1863.1	1861.6	1855.7	1842.4	1823.2
30°	1795.4	1809.9	1826.7	1843.9	1854.5	1862.4	1850.6	1848.6	1843.2	1829.9	1809.9
30.5°	1781.7	1796.6	1813.8	1831.4	1842.0	1849.4	1837.7	1835.7	1830.2	1816.5	1796.6
31°	1768.0	1782.9	1800.9	1818.1	1829.1	1836.9	1824.4	1822.4	1816.9	1803.6	1783.3
31.5°	1754.3	1769.5	1787.2	1805.2	1815.8	1823.6	1811.1	1809.1	1803.6	1790.3	1770.3
32°	1740.6	1755.8	1773.5	1791.9	1802.4	1810.3	1797.4	1795.8	1790.3	1777.4	1756.2
32.5°	1726.1	1741.7	1760.2	1778.2	1789.5	1797.0	1783.6	1782.1	1776.6	1763.7	1742.1
33°	1712.0	1727.7	1746.1	1764.5	1775.4	1783.3	1769.5	1768.0	1762.9	1749.6	1728.0
33.5°	1697.5	1713.2	1732.0	1750.8	1761.3	1769.2	1755.5	1753.5	1748.4	1735.1	1713.6
34°	1682.2	1698.7	1717.1	1736.3	1747.2	1755.1	1740.2	1738.6	1733.5	1720.2	1698.7
34.5°	1667.3	1683.4	1702.6	1721.4	1732.7	1739.8	1725.7	1723.7	1718.6	1705.7	1683.8
35°	1651.3	1668.1	1687.3	1706.5	1717.5	1724.9	1710.0	1708.5	1703.4	1690.5	1668.5
35.5°	1635.6	1652.5	1671.7	1691.2	1702.2	1709.6	1694.8	1692.8	1688.1	1674.8	1652.9
36°	1619.6	1636.4	1656.0	1675.6	1686.9	1694.4	1678.3	1676.0	1671.7	1658.3	1636.4
36.5°	1602.7	1620.0	1639.5	1659.9	1670.5	1677.9	1661.1	1659.1	1654.4	1641.5	1619.6
37°	1585.5	1602.7	1622.3	1642.3	1653.2	1660.7	1643.9	1641.9	1637.2	1624.3	1602.3
37.5°	1567.1	1585.1	1605.1	1625.4	1636.0	1643.5	1625.1	1623.9	1619.6	1606.3	1582.4
38°	1547.9	1566.3	1587.5	1607.4	1618.0	1625.8	1604.7	1604.3	1601.2	1587.1	1561.6
38.5°	1526.4	1544.8	1566.3	1589.0	1599.6	1606.7	1582.8	1582.4	1581.2	1567.5	1540.5
39°	1503.7	1521.3	1543.6	1568.7	1580.0	1586.3	1560.1	1560.4	1560.4	1546.3	1517.4
39.5°	1478.6	1497.4	1521.3	1547.9	1559.7	1564.8	1537.3	1537.3	1538.9	1524.0	1494.7
40°	1451.6	1471.9	1497.8	1524.8	1538.5	1541.6	1513.5	1512.7	1516.2	1500.5	1470.0
40.5°	1423.8	1444.9	1472.7	1501.7	1515.8	1517.8	1489.6	1488.4	1491.9	1475.9	1446.9
41°	1395.6	1417.9	1447.7	1476.6	1491.9	1493.5	1465.7	1464.1	1466.1	1450.8	1420.7
41.5°	1367.4	1390.5	1421.4	1451.2	1466.1	1468.8	1440.6	1438.3	1439.4	1425.0	1395.2
42°	1337.6	1361.9	1395.2	1425.0	1439.4	1443.4	1415.6	1413.2	1412.0	1398.3	1368.6
42.5°	1309.1	1333.3	1368.2	1398.3	1411.3	1417.1	1389.3	1386.6	1383.5	1370.5	1341.6
43°	1280.1	1305.1	1340.8	1370.5	1382.3	1390.1	1363.1	1359.6	1354.1	1342.3	1313.4
43.5°	1251.1	1276.6	1311.4	1342.3	1351.7	1363.5	1336.5	1332.2	1323.5	1313.4	1285.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1163.0	1190.8	1223.7	1253.1	1259.3	1279.3	1252.7	1247.2	1232.3	1222.5	1198.6
45.5°	1133.6	1161.8	1193.5	1222.1	1227.6	1249.1	1224.9	1217.8	1201.4	1191.2	1169.3
46°	1104.6	1132.8	1163.0	1190.4	1195.5	1219.8	1195.1	1187.3	1170.8	1159.9	1138.3
46.5°	1075.3	1103.5	1132.4	1158.7	1164.6	1189.6	1165.7	1157.5	1140.3	1128.5	1107.8
47°	1045.1	1074.5	1101.9	1126.6	1134.0	1158.7	1136.4	1127.7	1110.5	1097.2	1077.6
47.5°	1015.8	1044.7	1070.2	1094.9	1103.1	1127.7	1107.4	1096.8	1080.8	1066.7	1047.5
48°	986.4	1014.6	1040.0	1062.7	1072.5	1096.8	1076.8	1066.3	1050.6	1034.9	1016.1
48.5°	957.0	985.2	1008.7	1030.6	1042.4	1065.9	1047.5	1035.3	1020.8	1004.4	986.4
49°	928.0	955.5	978.2	999.3	1011.8	1035.3	1016.1	1005.2	991.5	973.5	955.5
49.5°	899.1	924.9	947.6	967.6	981.3	1004.0	985.2	974.6	961.7	943.3	925.3
50°	870.5	895.5	916.7	936.3	951.5	973.5	955.1	944.1	932.4	912.8	895.2
50.5°	841.9	865.4	886.1	904.9	921.8	942.9	923.3	914.3	902.6	883.4	865.0
51°	813.3	836.0	856.0	874.4	891.6	912.0	893.6	885.0	874.0	854.4	835.6
51.5°	785.9	807.4	826.2	843.9	862.3	883.0	862.3	855.2	845.4	825.1	806.7
52°	758.1	778.5	796.5	814.5	833.3	852.9	830.9	825.5	817.6	795.7	777.7
52.5°	731.1	749.9	767.1	785.1	803.9	822.7	801.2	796.5	788.6	767.5	748.3
53°	704.1	721.7	737.3	756.1	775.3	792.9	771.0	767.9	760.1	738.9	720.1
53.5°	677.4	693.9	708.8	727.6	746.4	764.4	741.7	738.9	731.9	711.9	692.3
54°	651.2	666.5	679.8	699.8	718.9	735.4	711.1	710.7	705.6	684.1	665.7
54.5°	625.4	638.7	652.4	672.0	691.5	707.2	682.5	683.3	678.2	657.5	639.1
55°	599.9	612.4	625.4	645.3	663.7	679.8	653.9	655.9	650.8	630.8	612.0
55.5°	575.2	586.6	597.9	618.7	636.7	652.0	625.7	628.9	624.2	605.4	586.2
56°	551.0	561.1	571.3	593.2	610.1	623.8	598.3	601.5	599.1	579.5	561.5
56.5°	526.7	535.7	546.3	567.8	584.2	597.2	571.3	575.6	572.9	554.9	536.9
57°	503.2	511.4	521.2	543.1	558.4	571.3	545.1	549.8	547.4	531.0	513.0
57.5°	480.1	487.1	496.5	518.5	533.3	545.1	519.6	524.7	522.8	507.5	489.1
58°	457.4	463.6	472.2	495.3	508.3	519.2	495.0	500.0	499.3	484.4	466.8
58.5°	435.4	440.9	449.5	471.9	485.2	494.6	470.7	475.0	475.0	462.1	444.8
59°	414.3	419.0	428.0	450.3	460.9	470.3	447.2	451.1	451.5	440.1	422.9
59.5°	393.5	397.5	406.5	427.6	437.8	446.4	424.1	428.4	428.8	418.6	402.5
60°	373.2	376.7	386.1	406.5	415.5	422.9	401.8	405.7	406.9	397.8	382.6
60.5°	354.0	356.7	366.1	385.7	393.9	400.6	381.0	383.4	385.3	377.9	363.0
61°	334.8	337.5	346.9	365.7	372.8	379.4	361.8	362.6	364.6	359.5	345.8
61.5°	316.8	319.5	328.9	345.8	353.6	359.9	342.2	343.4	345.4	341.1	328.9
62°	299.6	302.3	311.3	327.4	334.4	339.9	323.1	323.8	326.2	322.7	311.7
62.5°	283.1	285.5	294.5	309.0	315.6	320.3	303.9	304.3	307.0	304.3	294.5
63°	267.4	269.4	278.4	291.3	296.4	300.3	284.7	285.1	288.2	285.9	277.2
63.5°	253.0	254.5	263.1	274.5	277.2	280.8	267.1	267.8	271.4	269.4	262.0
64°	238.9	240.8	248.7	258.1	260.8	263.5	251.0	251.0	254.9	254.1	247.5
64.5°	225.5	227.5	234.9	243.2	244.7	247.5	236.1	236.1	239.3	239.3	234.2
65°	214.2	215.4	222.0	229.1	229.5	232.2	221.6	222.0	223.6	225.5	221.6
65.5°	203.2	204.4	210.3	215.8	215.4	217.7	208.3	208.7	208.7	213.0	209.9
66°	192.7	194.2	199.3	203.2	202.1	204.8	196.2	196.6	194.6	200.5	198.9



TEST NUMBER: P776256

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	167.2	169.2	171.5	172.7	170.3	173.1	166.4	168.0	163.7	171.1	172.3
68°	160.5	162.5	164.1	164.9	162.5	164.9	159.4	160.9	157.0	164.1	165.2
68.5°	154.3	157.0	157.8	157.8	155.8	157.8	153.9	155.1	153.1	157.8	159.0
69°	150.0	152.3	151.9	151.9	150.8	152.3	149.6	150.4	150.4	153.1	153.9
69.5°	147.2	148.0	147.6	147.2	146.5	147.6	146.5	147.2	147.6	149.2	150.4
70°	144.5	144.5	144.5	144.1	143.7	144.9	144.1	144.5	144.9	146.5	147.6
70.5°	141.8	142.1	142.9	141.8	141.4	142.5	141.8	141.8	142.1	143.7	145.3
71°	139.0	139.4	140.2	139.0	138.6	139.8	139.0	138.6	139.0	141.0	142.9
71.5°	136.7	136.7	137.8	136.7	136.3	137.4	136.3	135.9	136.3	137.8	140.2
72°	133.9	133.9	135.1	134.3	133.5	134.7	133.5	132.7	132.7	134.7	137.4
72.5°	131.6	131.6	132.4	132.0	130.8	132.0	130.8	129.6	129.6	131.6	134.7
73°	128.4	128.4	129.6	129.2	128.0	129.2	127.7	126.1	126.1	128.4	131.6
73.5°	125.3	125.3	126.9	126.1	125.3	126.1	124.5	122.6	122.6	124.9	128.4
74°	121.8	122.2	123.7	123.3	122.2	123.3	121.4	119.0	119.0	121.4	125.3
74.5°	118.3	118.6	120.6	120.6	119.0	120.2	118.3	115.5	115.1	117.9	122.2
75°	115.1	115.1	117.5	117.5	115.9	117.1	114.7	111.6	111.2	113.9	118.6
75.5°	111.2	111.6	114.3	114.3	112.8	113.9	111.2	107.7	107.3	110.0	115.1
76°	107.3	107.7	110.8	111.2	109.6	110.8	107.7	103.8	103.0	106.1	111.6
76.5°	103.8	104.2	107.3	107.7	106.1	107.3	103.8	99.9	99.1	101.8	108.1
77°	99.5	100.2	103.8	104.6	102.6	103.8	100.2	95.5	94.4	97.5	104.6
77.5°	95.2	95.9	100.2	101.0	99.1	100.2	96.3	91.2	89.7	92.8	100.2
78°	90.8	92.0	96.3	97.5	95.5	96.7	92.0	86.5	85.0	88.5	96.3
78.5°	86.5	87.7	92.4	94.0	91.6	92.8	88.1	81.8	80.3	83.8	92.0
79°	81.8	83.0	88.5	90.1	88.1	88.9	83.8	77.1	75.6	79.1	88.1
79.5°	77.1	78.7	84.6	86.1	84.2	85.4	79.5	72.4	70.5	74.0	83.8
80°	72.1	73.6	80.3	82.2	80.3	81.1	75.2	67.7	65.4	68.9	79.1
80.5°	67.4	68.9	76.0	78.3	76.0	77.1	70.9	62.7	60.3	64.2	74.8
81°	62.7	64.2	71.7	74.4	72.1	72.8	66.6	57.6	54.8	58.7	70.1
81.5°	57.2	59.1	67.4	70.1	67.7	68.5	61.9	52.5	49.7	53.6	65.4
82°	52.1	54.0	62.7	65.8	63.4	64.6	57.6	47.4	44.2	48.6	61.1
82.5°	47.0	48.9	58.3	61.5	59.1	59.9	53.3	42.7	39.2	43.1	56.4
83°	41.5	43.9	54.0	57.2	54.8	55.6	48.9	38.4	33.7	38.8	52.1
83.5°	36.0	38.8	49.7	52.9	50.5	51.3	44.6	34.1	28.6	34.5	47.4
84°	30.5	33.7	45.4	48.6	46.2	47.0	40.3	29.8	23.1	30.2	43.5
84.5°	25.1	29.0	41.1	43.9	41.5	42.3	36.0	25.8	17.6	25.5	39.2
85°	20.0	25.1	37.2	39.5	36.8	37.6	31.7	21.5	14.1	21.1	34.9
85.5°	15.3	21.9	32.9	34.9	32.1	32.9	27.0	18.4	12.1	18.8	30.9
86°	13.3	19.2	28.6	30.2	27.4	28.2	22.7	15.7	10.6	16.1	26.6
86.5°	11.4	16.1	23.9	25.5	22.7	23.5	18.4	12.9	8.6	13.7	22.3
87°	9.4	13.3	19.6	20.4	18.0	18.4	14.1	9.8	7.0	11.0	18.0
87.5°	7.0	10.6	14.9	15.7	13.3	13.7	9.4	7.0	5.1	8.6	13.7
88°	5.1	7.8	11.4	11.7	8.6	9.4	5.5	4.3	3.1	5.9	9.4
88.5°	3.5	5.1	7.8	7.8	4.7	5.1	2.0	2.0	2.0	3.5	5.5



TEST NUMBER: P776256
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776256

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2212.4	2212.4	2212.4	2212.4	2212.4	2212.4
0.5°	2211.3	2212.4	2212.4	2212.0	2211.6	2212.0
1°	2210.5	2211.6	2210.9	2211.3	2210.9	2211.3
1.5°	2209.7	2210.5	2209.7	2209.7	2209.7	2210.1
2°	2208.1	2208.9	2208.1	2208.5	2208.1	2208.9
2.5°	2206.9	2207.3	2206.6	2206.9	2206.6	2207.3
3°	2205.4	2205.4	2204.2	2205.0	2204.6	2205.8
3.5°	2203.4	2203.4	2202.2	2203.0	2203.0	2204.2
4°	2201.5	2201.5	2199.5	2200.7	2200.7	2202.2
4.5°	2199.1	2198.7	2197.2	2198.3	2198.3	2199.9
5°	2196.4	2196.0	2194.4	2195.6	2195.6	2197.5
5.5°	2193.6	2193.2	2191.3	2192.5	2192.8	2194.8
6°	2190.9	2190.1	2187.8	2189.7	2189.7	2191.7
6.5°	2187.8	2187.0	2184.2	2186.2	2186.6	2188.5
7°	2184.6	2183.4	2180.7	2182.7	2183.1	2185.4
7.5°	2180.7	2179.5	2176.8	2178.8	2179.1	2181.9
8°	2177.2	2175.6	2172.5	2174.8	2175.6	2178.4
8.5°	2172.9	2170.9	2168.6	2170.9	2171.3	2174.4
9°	2169.0	2166.6	2163.9	2166.6	2167.4	2170.1
9.5°	2164.3	2161.9	2159.2	2161.9	2162.7	2165.8
10°	2159.6	2157.2	2154.1	2156.8	2158.0	2161.1
10.5°	2154.9	2152.1	2148.6	2152.1	2153.3	2156.4
11°	2149.4	2147.0	2143.1	2146.6	2148.2	2151.3
11.5°	2144.3	2141.6	2137.6	2141.2	2142.7	2146.2
12°	2138.8	2135.7	2131.8	2135.7	2136.9	2140.8
12.5°	2132.9	2129.4	2125.5	2129.8	2131.4	2134.9
13°	2127.1	2123.5	2119.2	2123.5	2125.1	2129.4
13.5°	2120.4	2116.9	2113.0	2117.3	2118.8	2122.8
14°	2114.1	2110.6	2106.3	2111.0	2112.2	2116.9
14.5°	2107.5	2103.6	2099.3	2104.0	2105.5	2110.2
15°	2100.4	2096.5	2091.8	2097.3	2098.9	2103.6
15.5°	2093.4	2089.5	2084.8	2089.9	2091.4	2096.5
16°	2085.9	2081.6	2076.9	2082.4	2084.0	2089.1
16.5°	2078.5	2074.2	2069.1	2074.6	2076.5	2081.6
17°	2070.7	2066.0	2060.9	2066.8	2068.7	2074.2
17.5°	2062.5	2057.8	2052.7	2058.5	2060.5	2066.4
18°	2054.2	2049.1	2043.7	2050.3	2052.3	2058.1
18.5°	2045.6	2040.5	2035.0	2041.7	2043.7	2049.5
19°	2037.0	2031.5	2026.0	2032.7	2034.6	2040.9
19.5°	2028.0	2022.5	2016.6	2023.7	2025.6	2031.9
20°	2019.0	2013.1	2007.2	2014.3	2016.6	2022.9
20.5°	2009.2	2003.3	1997.1	2004.5	2007.6	2013.9
21°	1999.4	1993.1	1986.9	1995.1	1997.8	2003.7

TEST NUMBER: P776256

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1969.3	1962.6	1955.5	1964.2	1967.3	1974.0
23°	1958.7	1952.0	1944.6	1953.6	1956.7	1963.4
23.5°	1948.1	1941.5	1933.6	1942.6	1945.8	1952.8
24°	1937.1	1929.7	1922.3	1931.3	1934.4	1941.8
24.5°	1925.8	1918.3	1910.9	1920.3	1923.4	1930.9
25°	1914.4	1906.6	1899.2	1908.6	1912.1	1919.5
25.5°	1902.7	1894.9	1886.6	1896.8	1900.3	1908.2
26°	1890.9	1882.7	1874.9	1885.1	1888.6	1896.0
26.5°	1878.8	1871.0	1862.7	1872.5	1876.5	1884.7
27°	1866.7	1858.4	1849.8	1860.4	1864.3	1872.5
27.5°	1854.5	1845.9	1837.3	1847.9	1851.8	1860.0
28°	1842.0	1832.6	1824.4	1834.9	1838.9	1847.5
28.5°	1829.1	1820.1	1811.1	1821.6	1826.3	1834.6
29°	1816.1	1807.1	1798.1	1808.3	1813.0	1822.0
29.5°	1802.8	1793.8	1784.0	1795.4	1799.7	1808.7
30°	1789.9	1780.1	1771.1	1781.7	1786.4	1795.4
30.5°	1776.2	1766.4	1757.0	1768.0	1772.7	1781.7
31°	1762.9	1752.7	1743.3	1754.7	1759.0	1768.0
31.5°	1749.2	1739.0	1728.4	1740.2	1744.9	1754.3
32°	1735.1	1724.5	1714.7	1726.1	1730.8	1740.6
32.5°	1721.0	1710.4	1700.2	1711.6	1716.7	1726.1
33°	1706.5	1695.9	1685.8	1697.1	1702.2	1712.0
33.5°	1692.0	1681.1	1670.5	1682.6	1687.7	1697.5
34°	1676.7	1666.2	1655.2	1667.3	1672.4	1682.2
34.5°	1661.5	1650.5	1639.9	1652.1	1657.2	1667.3
35°	1646.2	1634.8	1623.9	1636.0	1641.5	1651.3
35.5°	1630.1	1618.8	1607.4	1620.0	1625.4	1635.6
36°	1613.7	1602.3	1591.0	1604.3	1609.4	1619.6
36.5°	1596.9	1585.5	1574.2	1587.1	1592.2	1602.7
37°	1579.2	1567.9	1556.5	1569.8	1574.9	1585.5
37.5°	1559.3	1549.1	1537.7	1552.2	1557.3	1567.1
38°	1537.0	1528.3	1516.2	1533.8	1538.1	1547.9
38.5°	1514.2	1506.0	1492.7	1512.3	1515.4	1526.4
39°	1490.4	1481.7	1469.6	1488.4	1492.7	1503.7
39.5°	1465.7	1455.1	1444.5	1463.7	1468.4	1478.6
40°	1440.2	1427.7	1417.5	1437.9	1443.0	1451.6
40.5°	1414.4	1400.3	1390.5	1411.3	1415.6	1423.8
41°	1387.8	1372.5	1362.3	1384.2	1388.2	1395.6
41.5°	1360.3	1343.9	1333.7	1357.2	1359.6	1367.4
42°	1332.5	1316.5	1305.1	1329.0	1330.6	1337.6
42.5°	1304.7	1289.1	1275.4	1300.8	1301.2	1309.1
43°	1276.6	1261.3	1246.0	1272.2	1272.2	1280.1
43.5°	1248.7	1232.7	1215.9	1242.9	1242.1	1251.1

TEST NUMBER: P776256

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1164.2	1147.7	1127.7	1152.8	1151.6	1163.0
45.5°	1136.0	1119.1	1098.4	1122.3	1121.1	1133.6
46°	1107.8	1091.3	1069.4	1091.7	1090.9	1104.6
46.5°	1079.6	1062.0	1040.0	1062.0	1060.8	1075.3
47°	1050.2	1033.0	1011.5	1030.6	1030.6	1045.1
47.5°	1022.0	1004.4	982.1	1000.1	1000.9	1015.8
48°	993.4	975.8	953.5	968.8	971.5	986.4
48.5°	964.5	946.8	924.1	939.4	942.1	957.0
49°	935.1	919.0	896.7	908.5	913.2	928.0
49.5°	906.1	891.2	868.9	879.1	884.2	899.1
50°	877.1	863.0	840.3	848.9	855.6	870.5
50.5°	848.6	835.2	812.5	820.4	827.0	841.9
51°	820.4	808.6	785.1	791.4	798.4	813.3
51.5°	791.8	781.2	758.1	763.6	770.2	785.9
52°	763.6	754.6	731.1	735.8	742.8	758.1
52.5°	735.8	727.9	704.1	709.5	715.8	731.1
53°	708.4	701.7	677.8	682.5	689.2	704.1
53.5°	681.3	675.9	652.4	656.3	662.6	677.4
54°	654.3	649.6	626.5	631.2	636.3	651.2
54.5°	628.1	624.6	601.9	606.6	610.9	625.4
55°	602.2	599.9	577.6	581.9	586.6	599.9
55.5°	576.8	575.2	553.7	558.8	562.3	575.2
56°	551.7	550.6	529.8	535.7	538.0	551.0
56.5°	527.5	527.1	507.1	513.4	514.9	526.7
57°	503.2	503.6	484.8	491.4	492.6	503.2
57.5°	479.7	480.9	462.8	469.9	470.7	480.1
58°	457.4	458.5	442.1	449.9	449.1	457.4
58.5°	435.0	437.0	421.7	430.0	429.2	435.4
59°	413.5	415.5	401.8	410.4	408.8	414.3
59.5°	392.4	394.7	383.0	391.6	390.0	393.5
60°	372.4	374.7	364.2	374.0	371.2	373.2
60.5°	354.8	355.2	346.2	356.3	353.6	354.0
61°	336.8	336.4	328.9	339.5	336.0	334.8
61.5°	318.7	318.4	312.9	323.1	319.5	316.8
62°	301.1	300.7	297.2	307.8	303.5	299.6
62.5°	283.1	284.3	281.9	292.9	288.2	283.1
63°	267.8	268.6	267.4	278.4	273.3	267.4
63.5°	253.7	253.4	253.7	264.7	259.6	253.0
64°	239.6	239.3	240.8	251.4	246.3	238.9
64.5°	226.7	226.3	228.7	238.9	233.8	225.5
65°	215.0	214.6	216.9	226.7	221.2	214.2
65.5°	204.0	204.0	206.0	215.8	211.1	203.2
66°	193.8	194.2	196.2	205.2	200.5	192.7



TEST NUMBER: P776256

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	169.9	171.5	171.1	177.8	174.3	167.2
68°	164.1	165.2	164.9	170.3	166.8	160.5
68.5°	158.6	159.8	159.0	163.7	160.5	154.3
69°	153.9	155.1	153.9	157.4	155.1	150.0
69.5°	150.0	150.8	149.6	152.3	150.4	147.2
70°	147.6	147.6	146.5	148.4	146.8	144.5
70.5°	145.3	145.3	144.1	145.7	143.7	141.8
71°	142.5	142.5	141.8	143.3	141.0	139.0
71.5°	140.2	140.2	139.4	140.6	138.6	136.7
72°	137.4	137.4	136.7	138.2	135.9	133.9
72.5°	134.7	135.1	133.9	135.5	133.1	131.6
73°	132.0	132.7	131.6	133.1	130.4	128.4
73.5°	129.2	130.0	128.8	130.8	127.3	125.3
74°	126.5	127.3	126.5	127.7	124.1	121.8
74.5°	123.3	124.5	123.3	124.5	120.6	118.3
75°	120.2	121.4	120.2	121.8	117.5	115.1
75.5°	117.1	118.3	117.1	118.3	113.6	111.2
76°	113.9	115.1	113.9	115.1	110.0	107.3
76.5°	110.4	111.6	110.8	111.6	106.1	103.8
77°	106.9	108.5	107.3	108.1	102.2	99.5
77.5°	103.4	104.9	104.2	104.6	98.3	95.2
78°	99.9	101.4	100.6	101.0	94.0	90.8
78.5°	95.9	97.9	96.7	97.1	89.7	86.5
79°	92.0	94.0	93.2	93.2	85.4	81.8
79.5°	88.1	90.1	89.3	88.9	80.7	77.1
80°	84.2	86.1	85.0	85.0	76.0	72.1
80.5°	79.9	81.8	81.1	80.7	71.3	67.4
81°	76.0	77.9	77.1	76.4	66.6	62.7
81.5°	71.7	73.6	72.8	72.1	61.5	57.2
82°	67.0	69.3	68.5	67.4	56.4	52.1
82.5°	62.7	65.0	64.2	63.0	51.3	47.0
83°	58.3	60.3	59.5	58.7	46.6	41.5
83.5°	53.6	56.0	55.2	54.4	41.5	36.0
84°	48.9	51.3	50.9	49.7	36.4	30.5
84.5°	44.2	46.6	46.2	45.4	31.7	25.1
85°	39.5	41.9	41.5	41.5	27.4	20.0
85.5°	34.9	37.2	36.8	37.2	23.9	15.3
86°	29.8	32.5	32.1	32.9	20.8	13.3
86.5°	25.1	27.4	27.0	28.6	18.0	11.4
87°	20.4	22.7	22.3	23.9	14.9	9.4
87.5°	15.3	17.6	17.2	19.6	12.1	7.0
88°	10.6	12.9	12.5	14.9	9.4	5.1
88.5°	6.3	9.8	9.4	11.4	6.7	3.5



TEST NUMBER: P776256
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRMW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



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Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	1994.3	2004.5	2017.4	2029.9	2039.0	2045.2	2038.2	2035.8	2029.9	2019.0	2004.5
22°	1984.1	1995.1	2008.0	2020.6	2029.6	2036.2	2028.8	2026.8	2020.9	2009.6	1994.7



44°	1221.7	1248.4	1282.8	1313.4	1321.2	1335.7	1309.4	1304.7	1293.4	1283.6	1257.0
44.5°	1192.0	1219.4	1253.4	1283.2	1290.3	1307.5	1280.9	1275.8	1262.8	1253.8	1228.0



66.5°	183.3	184.8	189.1	192.3	189.9	193.0	184.8	186.0	182.9	189.5	189.1
67°	175.0	176.2	179.7	181.7	179.3	182.5	175.0	176.2	172.3	179.7	180.1



89°	2.0	2.3	3.9	4.3	0.8	1.2	0.0	0.4	0.4	1.2	2.3
89.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4	0.0	0.4	0.0

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21.5°	1989.6	1983.4	1976.7	1984.9	1987.7	1994.3
22°	1979.8	1973.2	1966.5	1974.7	1977.5	1984.1



44°	1220.2	1204.1	1186.5	1213.1	1211.5	1221.7
44.5°	1192.4	1175.9	1156.7	1183.0	1181.4	1192.0

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66.5°	185.2	186.0	187.2	195.4	190.7	183.3
67°	177.0	177.8	178.6	186.4	182.1	175.0

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89°	2.7	6.7	6.3	7.8	3.9	2.0
89.5°	0.0	3.5	3.5	4.3	1.6	0.4

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(END OF REPORT)