

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: P776345

Luminaire Tested: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776345  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B041)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K  
Description: 6 INCH ROUND SHALLOW-WIDE LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4649.6 lumens  
Efficiency: N/A  
Efficacy: 120.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.16 / 1.25  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

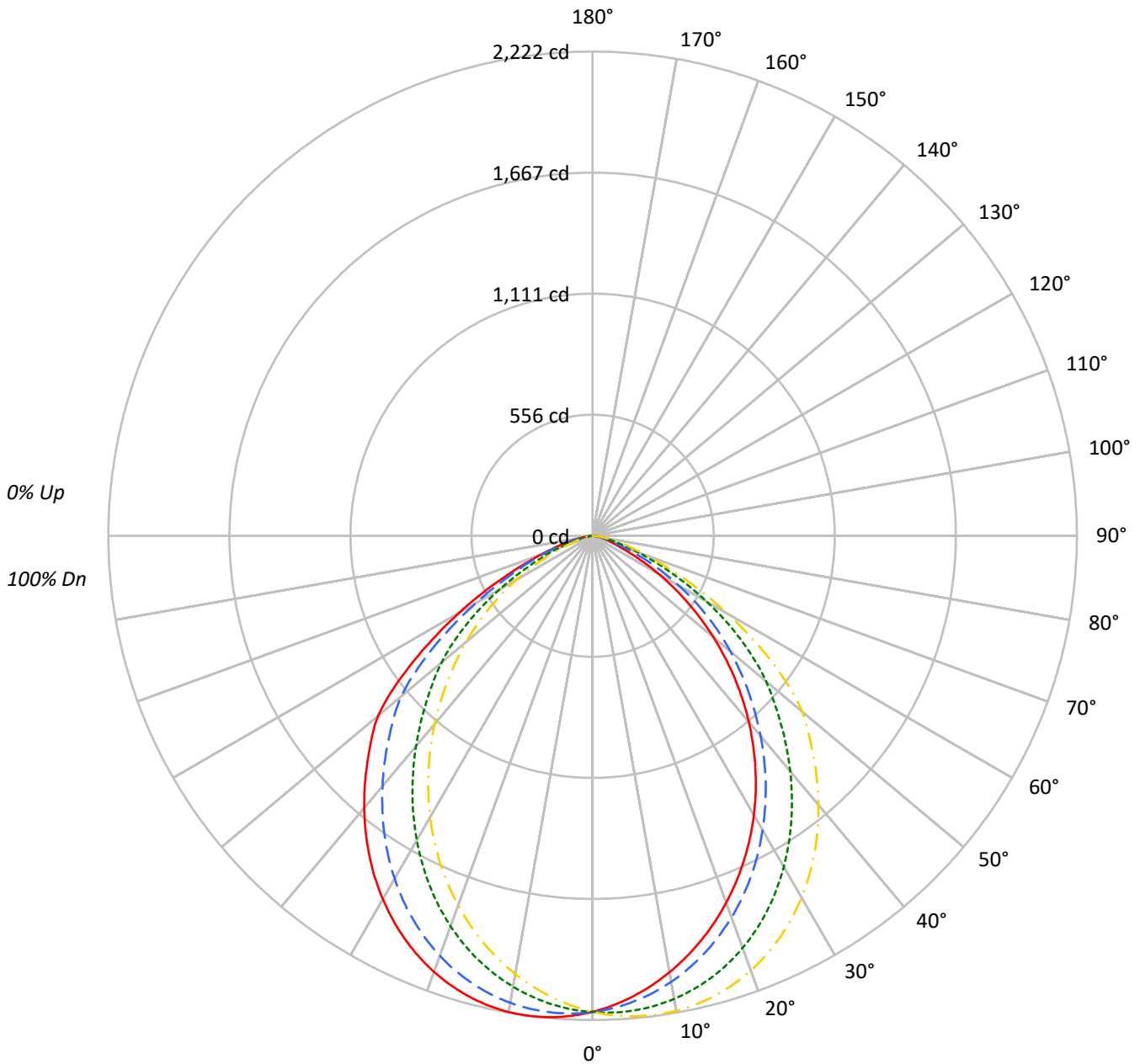
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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	103	100	108	105	101	99	100	98	95	97	94	93	93	91	90	88					88			
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76					76			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66					66			
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58					58			
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51					51			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40					40			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	35	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	119799	119799	119799	119799
5°	116789	120317	122050	118754
10°	113208	120105	123545	116987
15°	109121	119189	124263	114484
20°	104554	117406	124197	111205
25°	99423	114720	123431	107063
30°	93673	111042	121880	102149
35°	87134	106401	119605	96463
40°	79742	100925	116690	90212
45°	71333	94754	113175	83621
50°	61678	88517	109438	77191
55°	50665	79242	95786	67324
60°	38297	66201	77527	53998
65°	25139	50784	58009	39836
70°	16669	35567	40055	26831
75°	13344	22918	27811	16987
80°	9818	14049	16732	10071
85°	5284	8240	3648	5787

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 113950 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	205.8	4.4
10°-20°	579.3	12.5
20°-30°	845.3	18.2
30°-40°	956.7	20.6
40°-50°	905.2	19.5
50°-60°	687.3	14.8
60°-70°	344.3	7.4
70°-80°	109.1	2.3
80°-90°	16.5	0.4
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°	1630.4	35.1
0°-40°	2587.2	55.6
0°-60°	4179.6	89.9
0°-90°	4649.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4649.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2185	2185	2185	2185	2185	
5°	2122	2186	2218	2158	2122	200
15°	1923	2100	2190	2017	1923	540
25°	1644	1897	2041	1770	1644	755
35°	1302	1590	1787	1441	1302	812
45°	920	1222	1460	1079	920	708
55°	530	829	1002	704	530	474
65°	194	392	447	307	194	201
75°	63	108	131	80	63	68
85°	8	13	6	9	8	12
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°	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3
0.5°	2179.9	2181.4	2183.0	2184.1	2187.6	2188.0	2188.7	2189.1	2189.5	2189.5	2188.0
1°	2174.5	2177.2	2179.9	2183.4	2188.7	2190.7	2192.6	2193.7	2193.7	2193.0	2189.9
1.5°	2169.2	2172.6	2176.8	2181.8	2189.5	2193.3	2196.4	2198.0	2198.0	2196.0	2191.8
2°	2163.4	2167.6	2173.4	2180.3	2189.9	2195.3	2199.5	2201.8	2201.4	2199.1	2193.0
2.5°	2156.9	2162.3	2169.5	2178.4	2189.9	2197.2	2202.6	2205.2	2205.2	2201.8	2194.5
3°	2150.7	2156.9	2165.3	2176.1	2189.9	2198.7	2205.6	2208.7	2207.9	2203.7	2195.3
3.5°	2144.2	2151.1	2161.1	2173.4	2189.5	2200.3	2207.9	2211.8	2211.0	2205.6	2195.6
4°	2136.9	2145.0	2156.5	2170.7	2188.7	2201.0	2210.2	2214.5	2213.7	2207.5	2196.0
4.5°	2130.0	2138.5	2151.5	2167.6	2188.0	2201.8	2212.2	2217.1	2216.0	2208.7	2196.0
5°	2122.3	2131.9	2146.1	2164.2	2186.4	2202.2	2213.7	2219.1	2217.9	2209.9	2195.6
5.5°	2114.7	2124.6	2140.8	2160.3	2184.9	2202.6	2214.8	2221.0	2219.4	2210.6	2195.3
6°	2106.6	2117.3	2134.6	2156.5	2183.0	2202.2	2216.0	2222.5	2220.6	2211.0	2194.1
6.5°	2098.5	2110.0	2128.9	2152.3	2181.1	2201.8	2216.8	2223.7	2221.7	2211.0	2193.0
7°	2090.1	2102.4	2122.3	2147.7	2178.4	2201.0	2217.1	2224.4	2222.1	2211.0	2191.4
7.5°	2081.3	2094.3	2115.8	2142.7	2175.7	2199.9	2217.1	2224.8	2222.5	2210.2	2189.5
8°	2072.0	2085.9	2108.9	2137.3	2172.6	2198.7	2217.1	2225.2	2222.5	2209.5	2187.6
8.5°	2062.8	2077.4	2101.6	2131.9	2169.5	2197.2	2216.8	2225.2	2222.1	2208.3	2184.9
9°	2053.6	2069.0	2093.9	2126.2	2165.7	2195.6	2215.6	2224.8	2221.7	2207.2	2182.2
9.5°	2043.6	2059.8	2086.2	2120.4	2161.9	2193.3	2214.8	2224.1	2220.6	2205.2	2179.5
10°	2033.7	2050.6	2078.6	2113.9	2157.6	2191.0	2213.3	2222.9	2219.4	2203.3	2176.1
10.5°	2023.7	2041.0	2070.1	2107.4	2153.4	2188.0	2211.8	2221.7	2217.9	2200.6	2172.6
11°	2013.3	2031.4	2061.3	2100.5	2148.4	2184.9	2209.9	2220.2	2215.6	2198.3	2168.8
11.5°	2002.6	2021.4	2052.5	2093.2	2143.4	2181.8	2207.5	2217.9	2213.7	2195.3	2164.6
12°	1991.8	2011.0	2043.6	2085.5	2138.1	2178.0	2204.9	2216.0	2211.0	2192.2	2160.3
12.5°	1980.7	2000.6	2034.0	2078.2	2132.7	2174.2	2201.8	2213.3	2208.3	2188.7	2155.3
13°	1969.6	1989.9	2024.4	2069.7	2126.6	2169.9	2198.7	2210.2	2205.2	2184.9	2150.4
13.5°	1958.0	1979.2	2014.5	2061.7	2120.4	2165.7	2195.3	2207.2	2201.4	2180.7	2145.4
14°	1946.5	1968.0	2004.5	2053.2	2113.9	2160.7	2191.4	2203.7	2198.0	2176.1	2139.6
14.5°	1934.6	1956.9	1994.1	2044.4	2107.0	2155.7	2187.2	2199.9	2193.7	2171.5	2133.8
15°	1922.7	1945.0	1983.4	2034.8	2100.1	2150.0	2183.0	2195.6	2189.5	2166.5	2127.7
15.5°	1910.4	1933.1	1972.2	2025.6	2092.4	2144.6	2178.4	2191.4	2184.9	2161.1	2121.2
16°	1898.2	1921.2	1961.5	2015.6	2084.7	2138.5	2173.4	2186.4	2179.5	2155.3	2114.3
16.5°	1885.5	1908.9	1950.0	2006.0	2077.0	2132.3	2168.0	2181.4	2174.5	2149.6	2107.4
17°	1872.4	1896.6	1938.1	1995.3	2069.0	2125.8	2162.6	2176.5	2168.8	2143.4	2100.1
17.5°	1859.8	1884.0	1926.2	1984.9	2060.1	2118.9	2156.5	2170.7	2163.0	2136.9	2092.8
18°	1846.3	1870.9	1914.3	1974.2	2050.9	2112.0	2150.4	2164.6	2156.5	2130.0	2084.7
18.5°	1833.3	1858.2	1901.6	1963.0	2042.1	2104.3	2143.8	2158.4	2150.4	2122.7	2076.7
19°	1819.5	1844.8	1889.3	1951.5	2032.5	2096.6	2136.9	2151.9	2143.4	2115.4	2068.2
19.5°	1805.7	1831.8	1876.3	1939.6	2022.9	2088.6	2130.0	2145.0	2136.2	2108.1	2059.4
20°	1792.2	1817.9	1863.6	1928.1	2012.5	2080.1	2123.1	2137.7	2128.9	2100.1	2050.6
20.5°	1777.6	1804.1	1850.2	1915.8	2002.2	2071.3	2115.4	2130.4	2121.2	2091.6	2041.0
21°	1763.4	1789.9	1836.7	1903.5	1991.8	2062.8	2107.4	2122.7	2113.5	2083.2	2031.7

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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°	1720.1	1746.9	1794.9	1864.4	1958.4	2034.0	2081.6	2098.1	2088.2	2056.3	2001.8
23°	1705.1	1732.0	1780.7	1850.9	1946.5	2024.1	2072.8	2089.3	2079.0	2046.7	1991.1
23.5°	1690.1	1717.4	1766.5	1837.1	1934.6	2013.7	2063.6	2080.1	2069.7	2036.7	1980.3
24°	1674.8	1702.4	1751.5	1823.3	1922.3	2003.0	2053.6	2070.9	2060.5	2026.4	1969.2
24.5°	1659.0	1687.0	1736.2	1808.7	1909.7	1991.8	2043.6	2061.3	2050.2	2016.0	1957.7
25°	1643.7	1671.3	1721.2	1794.5	1896.6	1981.1	2033.7	2051.3	2040.6	2005.6	1946.1
25.5°	1627.9	1655.9	1706.2	1779.9	1883.6	1969.2	2023.3	2041.3	2029.8	1994.9	1934.2
26°	1612.2	1640.2	1690.9	1765.0	1870.5	1957.3	2012.5	2031.0	2019.5	1983.4	1922.3
26.5°	1596.1	1624.5	1674.4	1749.6	1856.7	1945.4	2001.4	2019.8	2008.3	1972.2	1910.1
27°	1579.9	1608.4	1659.0	1734.6	1842.5	1933.1	1989.9	2009.1	1997.6	1960.3	1897.4
27.5°	1563.4	1591.8	1642.9	1718.9	1828.7	1920.4	1978.8	1998.0	1986.1	1948.8	1884.7
28°	1546.9	1575.3	1626.8	1703.2	1814.1	1907.4	1966.9	1986.4	1974.2	1936.9	1871.3
28.5°	1530.4	1558.8	1609.9	1687.0	1799.5	1894.3	1954.6	1974.5	1962.3	1924.3	1858.2
29°	1513.9	1542.7	1593.4	1671.3	1784.9	1881.3	1942.3	1963.0	1950.0	1911.6	1844.8
29.5°	1497.0	1525.8	1576.9	1655.2	1769.6	1867.1	1930.0	1950.4	1937.7	1898.9	1831.0
30°	1479.8	1508.5	1560.4	1638.7	1754.2	1853.6	1917.0	1938.1	1925.4	1885.9	1816.8
30.5°	1462.5	1491.7	1542.7	1621.8	1738.9	1839.0	1903.5	1925.4	1912.7	1872.4	1802.6
31°	1445.2	1474.4	1525.8	1605.3	1723.1	1824.5	1890.1	1912.7	1899.7	1859.0	1788.4
31.5°	1427.9	1457.1	1508.2	1588.0	1707.0	1809.5	1876.7	1899.3	1885.9	1845.2	1773.4
32°	1410.3	1439.8	1490.9	1570.7	1690.5	1795.3	1862.8	1885.9	1872.8	1831.4	1758.8
32.5°	1392.6	1422.2	1473.2	1553.8	1674.4	1779.9	1849.0	1872.1	1859.4	1817.2	1743.9
33°	1374.6	1404.1	1456.0	1536.6	1658.3	1764.2	1834.4	1858.2	1845.2	1803.0	1728.9
33.5°	1356.9	1386.5	1437.9	1518.5	1641.4	1748.8	1819.9	1844.4	1831.0	1788.4	1713.9
34°	1338.9	1368.8	1420.3	1501.3	1624.5	1733.1	1804.9	1830.2	1816.4	1773.4	1697.8
34.5°	1320.5	1350.8	1401.8	1483.2	1606.8	1716.6	1789.9	1815.2	1801.8	1758.4	1682.1
35°	1302.0	1332.4	1384.2	1465.2	1589.9	1700.5	1774.9	1800.7	1787.2	1743.5	1666.3
35.5°	1284.0	1314.3	1365.4	1447.5	1572.7	1684.4	1759.2	1785.7	1772.6	1728.5	1650.6
36°	1265.6	1295.9	1347.7	1429.5	1555.0	1667.5	1743.9	1770.7	1757.7	1712.8	1634.1
36.5°	1247.1	1277.5	1329.3	1411.0	1537.3	1650.6	1728.1	1755.4	1741.9	1697.8	1617.9
37°	1228.3	1258.7	1310.1	1392.6	1519.3	1633.7	1712.0	1739.6	1726.6	1681.7	1601.4
37.5°	1209.5	1240.2	1292.1	1374.2	1501.3	1616.4	1695.5	1723.9	1710.8	1665.9	1584.6
38°	1190.3	1221.4	1273.6	1355.8	1483.6	1599.1	1679.4	1708.2	1695.1	1649.4	1567.7
38.5°	1171.9	1203.0	1254.8	1337.3	1465.2	1581.5	1662.5	1692.0	1679.4	1633.7	1551.5
39°	1153.5	1183.8	1236.4	1318.5	1447.1	1563.8	1646.0	1675.9	1662.9	1617.2	1534.3
39.5°	1133.9	1165.4	1217.6	1300.1	1429.1	1546.2	1629.1	1659.4	1647.1	1600.7	1517.4
40°	1114.3	1146.2	1199.2	1281.3	1410.3	1528.1	1611.8	1642.9	1630.6	1584.2	1499.7
40.5°	1095.5	1127.0	1179.6	1262.5	1391.1	1510.5	1594.5	1626.0	1613.7	1567.7	1482.8
41°	1076.3	1107.8	1161.2	1243.7	1372.7	1491.7	1576.9	1609.1	1597.2	1550.4	1465.2
41.5°	1056.8	1089.0	1142.0	1224.5	1354.6	1473.6	1559.6	1592.2	1580.7	1533.9	1447.9
42°	1037.2	1069.4	1123.2	1206.1	1335.0	1455.2	1541.9	1575.0	1563.4	1516.6	1430.2
42.5°	1018.0	1050.6	1104.7	1187.3	1317.0	1437.2	1524.3	1557.7	1546.5	1499.7	1412.6
43°	998.8	1031.4	1085.5	1168.5	1297.8	1418.7	1506.2	1540.4	1529.3	1482.1	1394.9
43.5°	979.2	1012.2	1066.7	1149.6	1279.4	1400.3	1488.6	1523.1	1512.4	1464.8	1377.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	920.1	954.3	1009.9	1093.2	1222.2	1344.3	1433.7	1469.8	1459.8	1412.6	1323.9
45.5°	900.5	935.5	991.9	1074.8	1204.5	1325.4	1415.7	1452.1	1442.5	1394.9	1306.3
46°	880.9	915.9	972.7	1056.0	1185.0	1306.3	1397.2	1434.5	1424.9	1378.0	1289.0
46.5°	860.6	897.1	954.3	1037.6	1166.2	1288.2	1379.6	1417.2	1408.4	1361.1	1272.1
47°	840.6	877.5	935.5	1019.1	1147.3	1269.8	1361.9	1399.9	1391.9	1344.6	1255.2
47.5°	821.4	858.3	917.0	1000.7	1129.7	1251.7	1344.6	1383.4	1375.0	1327.8	1237.9
48°	801.9	839.5	898.2	982.3	1110.9	1234.1	1327.0	1366.5	1358.5	1311.2	1221.4
48.5°	782.3	820.3	879.8	964.6	1093.2	1216.4	1310.1	1349.6	1341.6	1294.0	1203.8
49°	762.3	801.5	861.4	946.6	1074.8	1198.0	1292.1	1332.0	1323.9	1275.5	1185.7
49.5°	743.1	782.7	843.3	928.5	1056.4	1180.0	1274.0	1314.3	1305.1	1256.0	1165.8
50°	723.2	763.5	825.3	909.7	1037.9	1161.2	1254.4	1293.6	1283.2	1234.5	1145.8
50.5°	703.6	744.7	806.5	892.1	1019.5	1140.8	1232.9	1271.3	1260.2	1210.3	1123.2
51°	683.3	726.3	788.4	873.3	999.9	1119.3	1210.7	1246.8	1232.9	1185.0	1100.5
51.5°	664.5	707.4	770.4	854.5	979.6	1098.2	1187.3	1221.0	1206.8	1158.9	1075.6
52°	644.9	688.6	752.0	835.7	959.6	1075.2	1161.9	1193.4	1179.6	1131.6	1049.8
52.5°	625.7	670.2	733.9	816.1	938.1	1051.8	1135.8	1165.0	1150.4	1103.2	1023.4
53°	606.5	651.8	715.5	796.9	916.3	1028.0	1108.6	1136.2	1122.4	1074.8	997.3
53.5°	587.3	633.4	696.7	777.3	895.1	1003.4	1080.9	1107.4	1092.1	1045.6	970.0
54°	567.7	614.9	678.3	757.0	872.9	978.1	1053.7	1078.6	1061.7	1016.4	943.1
54.5°	548.9	596.5	659.8	737.8	851.8	953.5	1025.3	1048.7	1031.8	987.3	915.9
55°	530.1	578.5	641.4	718.6	829.1	928.2	997.3	1019.5	1002.2	958.1	889.0
55.5°	510.9	560.4	622.2	698.6	807.2	902.8	968.1	990.0	971.5	928.2	861.0
56°	492.9	542.0	603.8	678.7	784.6	876.3	939.7	960.0	940.8	897.8	833.7
56.5°	474.1	523.6	585.4	658.7	762.3	850.2	910.5	930.1	911.3	868.7	806.1
57°	455.6	505.5	566.6	638.7	739.3	824.1	882.5	899.8	880.9	839.9	779.2
57.5°	437.2	487.5	547.8	618.8	717.4	798.4	853.3	870.2	851.4	809.9	751.6
58°	419.6	469.8	529.7	598.8	694.4	771.9	826.1	840.6	822.6	780.8	724.7
58.5°	401.9	451.8	510.9	579.2	671.7	746.2	797.3	811.5	793.0	752.4	698.2
59°	383.9	434.5	492.9	558.9	648.7	720.1	768.9	782.3	763.9	724.7	671.4
59.5°	366.6	416.9	474.4	539.3	626.8	694.4	741.2	753.1	735.1	696.3	644.9
60°	349.3	399.6	456.8	520.1	603.8	669.1	713.6	724.7	707.1	669.1	619.9
60.5°	332.0	381.9	438.7	500.5	581.5	643.3	685.6	696.7	679.4	642.2	594.2
61°	315.1	365.4	420.7	481.0	558.9	618.8	658.7	669.1	651.8	616.5	569.6
61.5°	299.0	348.5	403.4	461.8	537.4	594.6	632.2	641.4	624.9	590.8	545.8
62°	282.5	332.0	386.5	443.0	515.1	570.8	606.9	614.9	598.4	565.8	522.4
62.5°	266.4	315.5	368.9	424.2	494.0	546.6	579.6	588.1	572.3	541.2	499.0
63°	251.0	299.8	352.0	405.4	472.5	522.4	554.3	562.0	547.4	516.7	476.4
63.5°	236.1	283.7	335.1	386.9	451.8	500.2	529.3	536.6	521.3	493.6	454.9
64°	221.1	268.3	318.2	368.5	431.1	476.7	505.9	512.1	495.6	472.1	434.1
64.5°	207.3	253.3	301.7	350.5	411.1	454.5	481.7	487.5	471.0	449.9	413.8
65°	193.8	238.8	285.6	332.8	391.5	433.0	458.3	464.5	447.2	428.8	393.8
65.5°	180.4	223.8	269.5	315.9	372.7	411.9	436.1	441.4	422.6	407.7	375.0
66°	168.1	210.0	253.3	298.3	353.9	390.8	414.6	418.8	399.6	387.7	356.6





TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	135.9	169.3	208.0	249.5	300.9	334.3	353.5	356.6	337.8	332.8	307.1
68°	129.0	156.6	193.8	234.5	283.3	316.7	335.9	338.2	319.4	315.1	290.6
68.5°	121.7	144.7	180.0	219.2	267.5	299.0	318.2	320.1	300.6	297.5	274.1
69°	114.8	135.1	167.0	205.0	251.8	281.4	300.6	302.1	281.7	280.2	259.5
69.5°	107.5	125.9	154.3	190.4	236.5	264.5	282.5	284.1	265.2	264.5	244.9
70°	104.0	116.7	142.8	177.7	221.9	249.1	266.8	268.7	249.9	249.5	231.1
70.5°	100.2	107.1	133.6	165.1	208.0	234.5	252.2	253.7	235.3	235.7	218.4
71°	96.0	97.9	124.4	152.8	195.0	220.3	237.6	239.1	221.5	221.9	205.7
71.5°	91.7	93.7	114.8	141.6	181.9	206.5	223.4	224.9	208.0	208.8	193.5
72°	87.1	89.8	105.6	132.4	169.7	194.2	210.4	212.3	195.4	196.1	181.9
72.5°	82.9	86.0	96.3	123.2	157.8	181.6	198.1	199.6	183.5	184.6	170.8
73°	78.7	81.8	89.1	114.0	147.0	170.0	186.2	188.1	172.0	172.7	160.1
73.5°	74.5	77.9	82.5	104.4	136.7	158.9	174.3	176.6	161.6	162.4	150.1
74°	70.6	74.1	76.8	95.2	126.7	148.6	163.9	165.8	150.9	152.0	140.5
74.5°	66.4	70.2	71.8	87.9	117.1	138.2	153.5	155.5	140.9	142.0	131.3
75°	63.0	66.4	67.2	81.0	108.2	128.6	143.9	145.5	131.3	132.8	122.1
75.5°	59.1	63.0	63.3	74.5	100.2	119.8	134.3	136.3	122.1	123.6	113.6
76°	55.7	59.1	59.5	68.7	92.1	110.9	125.1	127.1	112.9	114.8	105.6
76.5°	52.2	55.7	56.4	63.0	84.8	102.9	116.7	118.2	104.4	106.7	97.9
77°	48.7	52.2	53.0	58.0	77.9	95.2	108.2	110.2	96.0	98.7	90.6
77.5°	45.7	49.1	49.9	53.4	71.4	87.9	100.6	102.1	88.3	91.0	83.7
78°	42.2	45.7	46.8	49.1	65.3	81.0	92.9	94.4	80.6	83.7	76.8
78.5°	39.5	42.6	43.8	44.9	59.5	74.1	85.6	87.1	72.9	77.2	70.2
79°	36.5	39.5	41.1	41.1	54.1	67.9	78.7	79.8	66.0	70.2	64.1
79.5°	33.8	36.5	38.4	37.6	49.1	61.8	72.2	73.3	59.5	64.1	58.3
80°	31.1	33.8	35.7	34.5	44.5	56.0	65.6	66.8	53.0	58.0	52.6
80.5°	28.4	31.1	33.0	31.5	40.3	50.7	59.5	60.6	46.4	52.2	47.2
81°	25.7	28.4	30.3	28.8	36.5	45.7	53.7	54.9	41.1	46.8	42.2
81.5°	23.4	26.1	28.0	26.5	33.0	41.1	48.0	49.1	36.1	41.8	38.0
82°	21.1	23.4	25.7	24.2	29.6	36.9	42.6	44.1	30.7	37.6	33.8
82.5°	18.8	21.1	23.4	21.9	26.1	33.0	38.4	39.5	25.3	33.4	29.6
83°	16.5	18.8	21.1	20.0	22.6	29.2	34.2	35.3	20.3	29.2	25.3
83.5°	14.2	16.5	18.8	18.0	20.0	25.3	29.9	31.1	16.1	24.6	21.1
84°	12.3	14.2	16.9	16.1	17.3	21.5	25.3	26.5	11.9	20.3	18.0
84.5°	10.4	12.3	15.0	14.2	15.0	18.4	21.1	22.3	8.4	16.9	15.0
85°	8.4	10.4	13.1	12.7	13.1	15.4	17.7	18.0	5.8	13.8	12.3
85.5°	6.5	8.4	11.5	11.1	11.1	13.1	14.6	14.6	3.8	10.7	9.6
86°	5.0	6.9	9.6	9.6	9.2	10.4	11.9	11.1	2.7	8.1	7.3
86.5°	4.2	5.4	7.7	7.7	7.7	8.4	9.2	8.4	2.3	5.8	5.4
87°	3.1	4.2	6.1	6.1	6.1	6.5	6.9	6.1	1.5	3.8	3.8
87.5°	2.3	3.1	4.6	4.6	5.0	5.0	5.0	4.2	1.2	2.3	2.3
88°	1.5	2.3	3.1	3.5	3.8	3.5	3.1	2.3	0.8	1.2	1.2
88.5°	0.8	1.2	1.9	1.9	2.3	1.9	1.5	1.2	0.4	0.4	0.4



TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2185.3	2185.3	2185.3	2185.3	2185.3	2185.3
0.5°	2185.7	2184.9	2181.8	2179.9	2179.1	2179.9
1°	2186.1	2183.0	2178.0	2175.3	2173.8	2174.5
1.5°	2185.7	2180.7	2174.5	2169.9	2168.0	2169.2
2°	2185.7	2178.4	2170.3	2164.6	2161.9	2163.4
2.5°	2184.9	2175.7	2165.7	2159.2	2155.7	2156.9
3°	2184.1	2172.6	2161.1	2153.0	2149.2	2150.7
3.5°	2183.0	2169.2	2156.1	2146.9	2142.7	2144.2
4°	2181.4	2165.7	2151.1	2140.4	2135.8	2136.9
4.5°	2179.5	2161.9	2145.7	2133.5	2128.1	2130.0
5°	2177.6	2158.0	2140.0	2126.6	2120.4	2122.3
5.5°	2175.3	2153.4	2133.8	2119.3	2112.7	2114.7
6°	2172.6	2148.8	2127.3	2111.6	2104.7	2106.6
6.5°	2169.5	2143.8	2120.8	2103.9	2096.2	2098.5
7°	2166.5	2138.8	2114.3	2095.8	2087.4	2090.1
7.5°	2162.6	2133.1	2107.0	2087.4	2078.6	2081.3
8°	2159.2	2127.3	2099.7	2079.0	2069.7	2072.0
8.5°	2155.0	2121.6	2091.6	2070.1	2060.1	2062.8
9°	2150.7	2115.0	2083.9	2061.3	2050.6	2053.6
9.5°	2146.1	2108.1	2075.5	2051.7	2040.6	2043.6
10°	2141.1	2101.6	2067.1	2042.1	2030.6	2033.7
10.5°	2135.8	2094.3	2058.2	2032.5	2020.6	2023.7
11°	2130.4	2087.0	2049.4	2022.5	2010.2	2013.3
11.5°	2124.6	2079.0	2040.2	2012.2	1999.5	2002.6
12°	2118.9	2070.9	2030.6	2001.8	1988.4	1991.8
12.5°	2112.4	2062.8	2020.6	1990.7	1977.2	1980.7
13°	2105.8	2054.4	2010.6	1979.9	1966.1	1969.6
13.5°	2098.9	2045.2	2000.6	1968.8	1954.2	1958.0
14°	2091.6	2036.3	1989.9	1957.7	1942.7	1946.5
14.5°	2084.3	2026.8	1979.2	1946.1	1930.8	1934.6
15°	2076.3	2017.2	1968.4	1934.2	1918.5	1922.7
15.5°	2068.2	2007.6	1956.9	1922.0	1906.2	1910.4
16°	2060.1	1997.2	1945.4	1909.7	1893.9	1898.2
16.5°	2051.7	1986.8	1933.5	1897.4	1880.9	1885.5
17°	2042.9	1976.1	1921.6	1884.7	1868.2	1872.4
17.5°	2033.7	1965.3	1909.3	1871.7	1854.8	1859.8
18°	2024.1	1953.8	1897.0	1858.6	1841.7	1846.3
18.5°	2014.5	1942.3	1884.0	1845.2	1828.3	1833.3
19°	2004.5	1930.4	1871.3	1831.8	1814.5	1819.5
19.5°	1994.1	1918.5	1858.2	1817.9	1800.7	1805.7
20°	1983.8	1906.2	1844.8	1804.5	1786.8	1792.2
20.5°	1973.0	1893.9	1831.0	1790.3	1772.6	1777.6
21°	1961.9	1880.9	1817.2	1775.7	1758.1	1763.4

TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1927.3	1841.4	1774.2	1732.0	1714.3	1720.1
23°	1915.1	1827.1	1759.6	1717.0	1699.3	1705.1
23.5°	1903.2	1813.7	1745.0	1702.0	1684.4	1690.1
24°	1890.5	1799.1	1729.6	1686.7	1668.6	1674.8
24.5°	1877.4	1784.9	1714.7	1671.3	1652.9	1659.0
25°	1864.4	1770.0	1698.9	1655.6	1637.5	1643.7
25.5°	1850.9	1755.4	1683.6	1639.4	1621.8	1627.9
26°	1837.5	1740.8	1667.5	1623.3	1605.7	1612.2
26.5°	1823.3	1725.0	1652.1	1607.6	1589.5	1596.1
27°	1809.5	1709.3	1635.6	1591.5	1573.4	1579.9
27.5°	1795.7	1693.9	1619.5	1575.0	1556.9	1563.4
28°	1781.1	1678.2	1602.6	1558.1	1540.0	1546.9
28.5°	1766.9	1662.5	1586.5	1541.6	1523.9	1530.4
29°	1751.5	1646.0	1569.6	1524.7	1506.6	1513.9
29.5°	1736.6	1629.8	1552.7	1507.8	1489.7	1497.0
30°	1721.2	1613.7	1535.8	1490.5	1472.5	1479.8
30.5°	1706.2	1596.8	1518.5	1473.2	1455.6	1462.5
31°	1690.5	1579.9	1500.9	1456.0	1437.9	1445.2
31.5°	1674.4	1563.1	1484.0	1438.3	1420.6	1427.9
32°	1658.3	1545.8	1466.3	1420.6	1402.6	1410.3
32.5°	1642.5	1528.9	1448.7	1403.0	1385.3	1392.6
33°	1626.0	1512.0	1431.0	1385.3	1367.3	1374.6
33.5°	1609.5	1494.3	1413.4	1367.3	1349.6	1356.9
34°	1593.0	1476.7	1395.3	1349.2	1331.6	1338.9
34.5°	1576.1	1459.0	1376.9	1331.2	1313.6	1320.5
35°	1559.2	1441.4	1358.8	1312.8	1294.7	1302.0
35.5°	1542.3	1423.3	1341.2	1294.4	1277.1	1284.0
36°	1525.4	1406.1	1322.8	1276.3	1258.7	1265.6
36.5°	1508.2	1387.6	1304.7	1257.9	1239.9	1247.1
37°	1490.5	1369.6	1285.9	1239.1	1221.4	1228.3
37.5°	1473.2	1351.9	1267.9	1220.7	1203.0	1209.5
38°	1455.6	1333.5	1249.1	1201.8	1184.2	1190.3
38.5°	1437.9	1315.1	1231.0	1183.4	1165.4	1171.9
39°	1420.3	1297.4	1212.6	1165.0	1146.6	1153.5
39.5°	1402.6	1279.0	1194.2	1146.2	1127.8	1133.9
40°	1384.6	1260.6	1175.4	1127.0	1108.6	1114.3
40.5°	1366.9	1242.5	1156.9	1108.6	1089.8	1095.5
41°	1348.9	1223.7	1138.5	1089.8	1070.2	1076.3
41.5°	1330.8	1205.7	1119.7	1071.0	1051.0	1056.8
42°	1312.8	1187.6	1101.3	1052.1	1032.2	1037.2
42.5°	1294.7	1169.6	1083.2	1033.3	1013.0	1018.0
43°	1277.1	1151.6	1064.8	1014.5	993.8	998.8
43.5°	1258.7	1132.8	1046.8	995.7	974.6	979.2

TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1204.9	1078.6	991.5	939.7	917.0	920.1
45.5°	1186.9	1060.6	973.5	920.9	897.5	900.5
46°	1169.2	1043.3	955.8	902.8	878.3	880.9
46.5°	1151.9	1026.0	938.1	884.0	859.1	860.6
47°	1134.7	1008.8	920.1	865.6	839.9	840.6
47.5°	1117.4	991.1	902.4	847.2	821.1	821.4
48°	1100.9	975.0	885.2	828.7	801.9	801.9
48.5°	1084.0	957.7	867.5	810.7	782.3	782.3
49°	1066.3	940.4	850.6	793.0	763.5	762.3
49.5°	1047.5	923.2	833.7	775.0	744.7	743.1
50°	1028.3	905.1	816.5	757.0	725.5	723.2
50.5°	1008.0	886.3	798.4	739.3	707.1	703.6
51°	987.3	867.5	781.1	721.6	687.9	683.3
51.5°	965.8	847.9	763.5	704.0	669.4	664.5
52°	943.9	828.4	745.4	686.7	651.0	644.9
52.5°	920.9	808.0	727.0	668.7	632.2	625.7
53°	898.2	787.7	708.6	651.0	614.2	606.5
53.5°	874.0	766.9	690.2	633.0	595.7	587.3
54°	849.9	746.2	671.4	615.7	577.7	567.7
54.5°	825.7	725.5	652.6	597.7	559.7	548.9
55°	801.9	704.4	633.4	579.6	542.0	530.1
55.5°	776.9	682.5	614.6	561.6	523.6	510.9
56°	752.4	661.4	595.4	543.9	505.9	492.9
56.5°	728.2	640.3	576.5	525.9	488.3	474.1
57°	704.0	618.8	557.0	508.2	470.6	455.6
57.5°	679.4	597.3	537.8	489.8	452.9	437.2
58°	655.6	576.2	519.0	472.5	436.1	419.6
58.5°	632.2	555.1	500.2	454.5	418.4	401.9
59°	608.0	533.9	481.4	436.8	401.1	383.9
59.5°	585.0	512.8	462.5	419.6	384.2	366.6
60°	562.0	492.5	444.1	402.3	367.3	349.3
60.5°	539.3	472.1	425.7	385.0	350.5	332.0
61°	516.7	452.2	407.7	368.1	334.0	315.1
61.5°	494.8	433.0	389.6	351.6	317.8	299.0
62°	474.1	413.8	372.0	335.1	302.1	282.5
62.5°	452.6	395.0	354.7	318.6	286.4	266.4
63°	431.8	376.2	337.8	302.5	271.0	251.0
63.5°	411.5	358.5	320.9	286.7	255.6	236.1
64°	391.9	340.9	304.4	271.0	241.1	221.1
64.5°	373.1	324.0	288.3	255.6	226.5	207.3
65°	354.7	307.1	272.5	240.7	213.0	193.8
65.5°	337.4	291.0	257.2	225.7	199.2	180.4
66°	320.5	274.8	241.8	211.5	186.2	168.1



TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	271.4	230.7	199.6	170.8	149.3	135.9
68°	256.4	216.9	186.2	158.9	138.6	129.0
68.5°	242.2	203.8	173.9	147.0	130.1	121.7
69°	228.4	191.2	161.2	135.5	122.1	114.8
69.5°	215.3	179.3	149.7	126.7	114.0	107.5
70°	202.7	167.4	139.3	117.8	105.6	104.0
70.5°	190.8	156.2	130.5	109.0	97.5	100.2
71°	178.9	145.9	121.7	100.2	93.7	96.0
71.5°	168.1	135.5	112.9	93.3	90.2	91.7
72°	157.4	127.1	104.0	87.1	86.4	87.1
72.5°	147.4	118.6	95.2	81.4	82.1	82.9
73°	137.4	110.2	87.9	76.0	77.9	78.7
73.5°	128.2	101.3	81.4	71.4	74.1	74.5
74°	119.4	94.0	75.2	67.6	70.2	70.6
74.5°	111.3	86.8	69.5	64.1	66.4	66.4
75°	103.3	80.2	64.5	61.0	63.0	63.0
75.5°	95.6	73.7	59.5	57.6	59.1	59.1
76°	88.3	67.9	55.3	54.5	55.7	55.7
76.5°	81.8	62.2	51.1	51.4	52.2	52.2
77°	75.2	56.8	47.2	48.4	49.1	48.7
77.5°	69.1	52.2	43.8	45.3	46.1	45.7
78°	63.0	47.2	40.3	42.6	43.0	42.2
78.5°	57.6	43.0	37.2	39.9	39.9	39.5
79°	52.2	39.2	34.5	37.2	36.9	36.5
79.5°	47.6	35.3	31.9	34.5	34.2	33.8
80°	43.0	31.9	29.6	31.9	31.5	31.1
80.5°	38.4	28.8	27.6	29.6	28.8	28.4
81°	34.9	25.7	25.3	27.3	26.1	25.7
81.5°	31.5	23.0	23.4	25.0	23.8	23.4
82°	27.6	20.7	21.1	22.6	21.1	21.1
82.5°	24.2	18.4	19.2	20.3	18.8	18.8
83°	20.3	16.1	17.3	18.4	16.5	16.5
83.5°	17.7	14.2	15.4	16.5	14.2	14.2
84°	15.0	12.3	13.8	14.6	12.7	12.3
84.5°	12.7	10.7	11.9	12.7	10.7	10.4
85°	10.4	9.2	10.4	10.7	8.8	8.4
85.5°	8.4	7.3	8.4	9.2	6.9	6.5
86°	6.5	6.1	6.9	7.3	5.8	5.0
86.5°	5.0	4.6	5.4	5.8	4.6	4.2
87°	3.5	3.5	3.8	4.2	3.5	3.1
87.5°	2.3	1.9	2.3	2.7	2.3	2.3
88°	1.5	0.8	1.2	1.5	1.5	1.5
88.5°	0.4	0.4	0.4	0.4	0.8	0.8



TEST NUMBER: P776345

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-HCD61TRLWW-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°	1749.2	1775.7	1822.9	1890.5	1980.7	2053.2	2098.9	2115.0	2105.4	2074.7	2021.8
22°	1734.6	1761.5	1809.1	1877.4	1969.9	2043.6	2090.9	2106.6	2096.6	2065.1	2011.8



44°	958.9	992.6	1047.9	1130.8	1260.2	1381.1	1470.2	1505.1	1494.7	1447.5	1359.6
44.5°	939.7	973.5	1029.1	1112.4	1241.4	1362.7	1452.1	1487.4	1477.5	1430.2	1342.0



66.5°	156.2	196.1	238.0	281.7	336.3	370.8	393.5	397.3	377.3	367.7	340.1
67°	145.1	182.7	223.0	265.2	318.6	352.0	373.5	376.6	356.6	350.1	323.6



89°	0.4	0.4	0.8	0.8	1.5	1.2	0.8	0.4	0.0	0.0	0.0
89.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0



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21.5°	1950.7	1867.8	1803.3	1761.1	1743.5	1749.2
22°	1938.8	1854.8	1788.8	1746.9	1728.9	1734.6



44°	1240.6	1114.7	1028.0	976.9	955.0	958.9
44.5°	1222.2	1096.7	1009.9	958.1	936.2	939.7



66.5°	303.2	259.9	227.2	196.9	173.5	156.2
67°	286.4	244.5	213.0	184.3	161.2	145.1

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Scaled Data Report



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

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)