

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: P776732

Luminaire Tested: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776732  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B018)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K  
Description: 6 INCH SQUARE MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4185.9 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.19 / 1.3  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
CIE Type: Direct

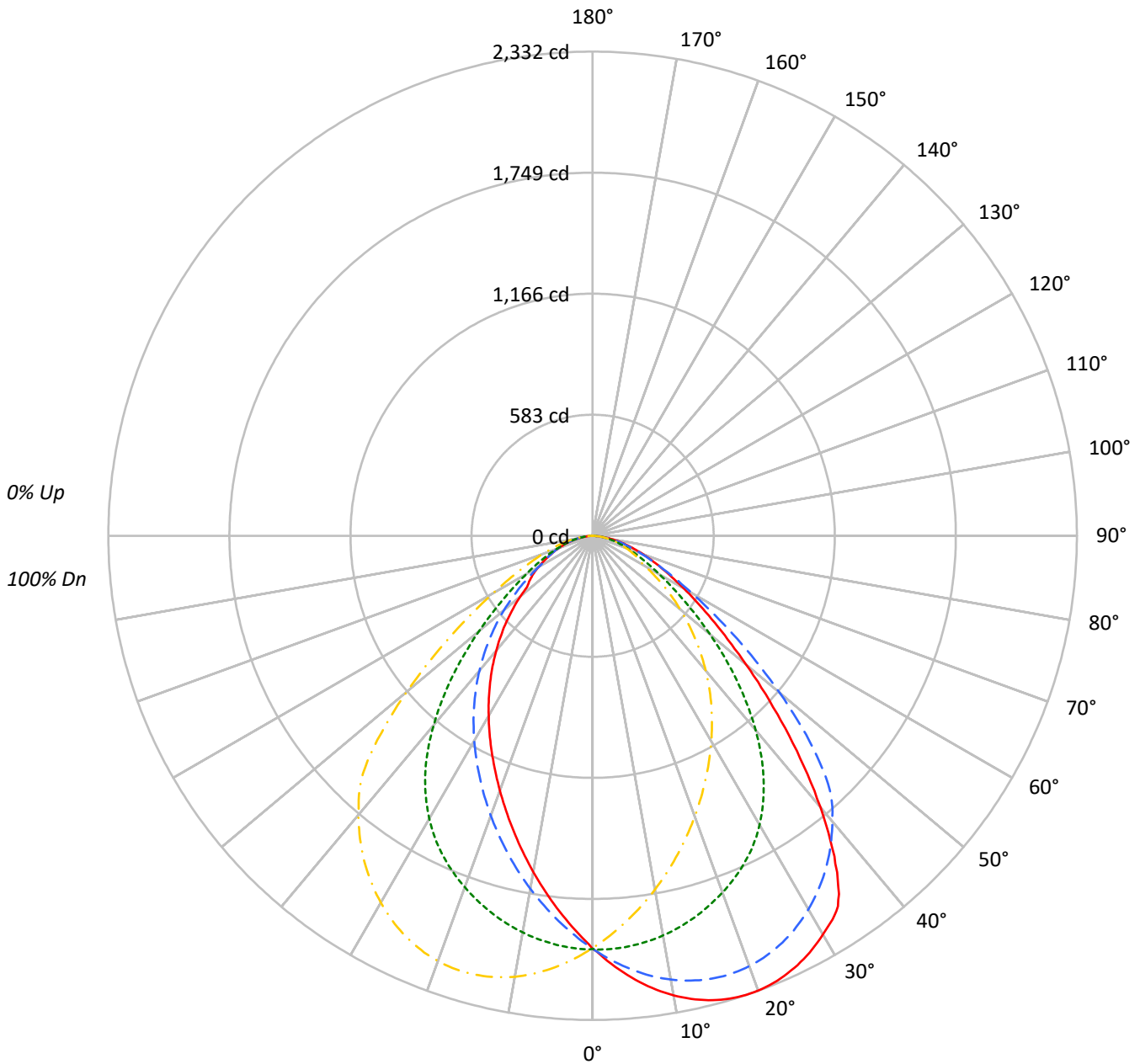
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
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	104	101	98	100	97	95	96	94	92	93	91	89	87					87			
2	102	95	89	84	100	93	88	83	90	85	81	86	83	79	83	80	78	76					76			
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	66	61	70	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51					51			
6	75	63	55	49	73	62	54	49	60	53	48	59	52	48	57	52	47	45					45			
7	70	57	49	44	68	57	49	44	55	48	43	54	48	43	52	47	43	41					41			
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33					33			
10	57	45	38	33	56	45	37	33	44	37	32	43	37	32	42	36	32	31					31			

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

	0°	90°	180°	270°
0°	85638	85638	85638	85638
5°	92288	85822	78540	85494
10°	98265	85450	71875	84812
15°	103172	84767	65582	83800
20°	106808	83761	59826	82529
25°	109128	82405	54585	80880
30°	110261	79929	49781	78214
35°	108387	75452	45192	73885
40°	95931	68587	40580	66918
45°	79906	59593	35742	57870
50°	64638	49400	30343	47852
55°	52351	39529	27556	38606
60°	43684	32059	25885	31732
65°	37165	26682	23605	26876
70°	32315	22874	21741	23289
75°	28180	19780	19696	20495
80°	23158	16960	16489	17778
85°	14919	13042	9090	14474

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 94245 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.9	4.5
10°-20°	533.3	12.7
20°-30°	791.1	18.9
30°-40°	904.1	21.6
40°-50°	786.0	18.8
50°-60°	511.4	12.2
60°-70°	291.4	7.0
70°-80°	146.0	3.5
80°-90°	34.7	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°	1512.3	36.1
0°-40°	2416.4	57.7
0°-60°	3713.8	88.7
0°-90°	4185.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4185.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1989	1989	1989	1989	1989	
5°	2135	1986	1817	1978	2135	207
15°	2315	1902	1471	1880	2315	655
25°	2297	1735	1149	1702	2297	1058
35°	2062	1436	860	1406	2062	1266
45°	1312	979	587	950	1312	1014
55°	697	527	367	514	697	635
65°	365	262	232	264	365	366
75°	169	119	118	123	169	180
85°	30	26	18	29	30	39
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°	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0
0.5°	2001.2	2001.2	2001.2	1998.9	1993.2	1989.0	1974.3	1968.7	1968.7	1971.0	1977.2
1°	2016.8	2015.9	2012.1	2005.0	1993.2	1982.8	1963.0	1953.6	1952.2	1955.5	1965.4
1.5°	2032.9	2031.0	2023.4	2011.2	1993.2	1976.2	1950.7	1938.5	1935.2	1939.9	1953.1
2°	2048.4	2045.6	2034.3	2016.8	1992.7	1969.6	1939.0	1922.9	1918.7	1924.8	1940.8
2.5°	2063.5	2059.3	2045.6	2022.5	1992.3	1962.5	1927.2	1907.3	1901.7	1908.8	1928.1
3°	2078.6	2073.4	2056.0	2027.7	1991.3	1955.9	1914.4	1891.8	1885.2	1893.2	1915.4
3.5°	2093.3	2087.1	2065.9	2032.9	1990.4	1948.9	1902.1	1876.2	1868.2	1877.1	1902.6
4°	2107.4	2100.3	2076.3	2037.6	1988.5	1940.8	1889.4	1860.6	1851.7	1861.6	1889.9
4.5°	2121.6	2113.1	2085.7	2042.3	1987.1	1933.8	1877.1	1844.1	1834.2	1845.0	1877.1
5°	2135.3	2125.8	2095.1	2047.0	1985.7	1925.7	1864.4	1828.5	1817.2	1829.0	1863.9
5.5°	2148.0	2138.1	2104.6	2050.8	1983.3	1917.7	1851.2	1812.5	1800.2	1813.0	1850.7
6°	2160.7	2149.9	2113.1	2054.6	1980.9	1909.2	1838.0	1796.4	1783.2	1796.4	1837.0
6.5°	2173.5	2161.2	2121.6	2058.3	1978.6	1901.2	1825.2	1780.4	1765.8	1780.4	1823.8
7°	2185.3	2172.5	2129.6	2061.6	1975.8	1893.2	1812.0	1763.9	1748.3	1763.9	1810.1
7.5°	2196.6	2182.9	2137.6	2064.9	1972.9	1883.7	1798.3	1747.4	1730.9	1747.4	1796.4
8°	2207.5	2193.3	2144.7	2067.8	1969.6	1875.2	1784.6	1731.3	1713.9	1730.9	1782.8
8.5°	2218.3	2202.7	2151.8	2070.1	1966.3	1865.8	1771.4	1714.8	1696.4	1714.8	1768.6
9°	2228.7	2212.6	2158.4	2072.0	1962.5	1856.8	1757.8	1698.8	1678.5	1697.8	1754.9
9.5°	2238.6	2221.6	2164.5	2073.9	1958.8	1847.9	1744.1	1681.8	1661.5	1681.3	1740.8
10°	2247.6	2230.1	2170.6	2075.8	1954.5	1838.0	1729.9	1665.3	1644.0	1664.8	1726.6
10.5°	2256.5	2238.6	2176.3	2077.2	1950.7	1828.5	1715.8	1648.7	1627.0	1648.3	1712.5
11°	2265.0	2246.1	2181.0	2078.2	1946.0	1818.6	1701.6	1632.2	1609.6	1631.3	1698.3
11.5°	2273.0	2253.2	2186.2	2079.1	1941.3	1808.2	1687.4	1616.2	1591.6	1615.2	1684.1
12°	2280.6	2260.3	2190.5	2079.1	1936.1	1797.9	1673.3	1598.7	1574.7	1598.3	1669.5
12.5°	2287.7	2266.4	2194.2	2079.6	1930.9	1787.5	1659.1	1582.7	1557.7	1581.7	1655.4
13°	2293.8	2272.6	2198.0	2079.1	1925.7	1777.6	1644.5	1566.2	1540.2	1564.8	1640.7
13.5°	2299.9	2277.8	2201.3	2078.6	1919.6	1766.7	1629.9	1549.7	1522.8	1548.7	1626.1
14°	2305.1	2283.0	2204.1	2078.2	1913.9	1755.9	1615.7	1533.1	1505.8	1531.7	1611.5
14.5°	2310.3	2287.2	2206.5	2077.2	1907.8	1745.0	1600.6	1516.1	1488.3	1515.2	1596.8
15°	2314.6	2291.4	2208.4	2075.8	1901.7	1733.7	1586.0	1499.6	1471.3	1498.7	1582.2
15.5°	2318.8	2294.7	2210.3	2073.9	1895.1	1722.8	1571.4	1483.6	1454.3	1482.6	1567.1
16°	2322.1	2298.1	2211.2	2072.0	1888.5	1711.5	1556.7	1467.1	1437.3	1465.7	1552.5
16.5°	2325.0	2300.4	2212.2	2069.7	1881.9	1700.2	1542.1	1450.6	1420.8	1449.6	1537.9
17°	2327.3	2302.3	2212.6	2066.8	1874.3	1688.4	1527.0	1434.0	1403.8	1433.1	1523.2
17.5°	2329.2	2303.7	2212.6	2064.0	1867.2	1677.1	1512.4	1418.0	1387.3	1416.6	1508.1
18°	2330.6	2304.7	2212.2	2061.2	1859.7	1665.7	1497.7	1401.5	1370.3	1400.5	1493.0
18.5°	2331.6	2305.6	2211.2	2057.4	1852.1	1653.5	1482.6	1385.4	1354.3	1384.5	1478.4
19°	2331.6	2305.6	2209.8	2053.6	1844.1	1641.2	1468.0	1369.4	1338.3	1368.5	1463.8
19.5°	2331.6	2305.1	2208.4	2049.8	1836.6	1629.4	1452.9	1353.4	1321.7	1352.4	1449.1
20°	2331.1	2304.2	2206.0	2045.1	1828.1	1617.6	1437.8	1337.3	1305.7	1336.4	1434.0
20.5°	2329.7	2302.8	2203.7	2040.9	1820.0	1605.3	1423.2	1321.3	1289.2	1320.8	1418.9
21°	2328.3	2300.9	2200.4	2035.7	1811.1	1592.6	1408.1	1305.7	1273.6	1304.7	1404.3

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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°	<b>2319.8</b>	2291.9	2189.0	2019.2	1784.2	1555.3	1363.7	1259.0	1225.9	1258.5	1359.5
23°	<b>2316.5</b>	2288.1	2184.3	2013.0	1775.2	1542.6	1348.6	1243.4	1210.4	1242.9	1344.9
23.5°	<b>2312.2</b>	2283.9	2179.1	2006.9	1765.3	1529.8	1334.0	1227.8	1194.8	1227.8	1330.2
24°	<b>2307.5</b>	2278.7	2173.9	1999.8	1755.4	1516.6	1318.9	1212.7	1179.7	1212.3	1315.1
24.5°	<b>2302.3</b>	2273.5	2167.8	1993.2	1745.5	1503.9	1304.3	1197.6	1164.6	1196.7	1300.5
25°	<b>2297.1</b>	2267.9	2161.7	1985.7	1734.6	1490.2	1289.6	1182.1	1149.0	1181.6	1285.4
25.5°	<b>2291.0</b>	2261.2	2155.1	1978.1	1724.2	1477.5	1274.5	1167.0	1133.9	1167.0	1271.2
26°	<b>2284.4</b>	2255.1	2148.0	1969.6	1712.9	1463.8	1259.9	1151.9	1118.8	1151.4	1256.1
26.5°	<b>2277.3</b>	2247.6	2140.4	1961.6	1701.6	1450.1	1245.3	1137.2	1103.7	1136.8	1241.5
27°	<b>2270.2</b>	2240.5	2132.9	1953.1	1689.8	1436.4	1230.7	1122.1	1089.1	1121.7	1226.9
27.5°	<b>2262.7</b>	2232.5	2124.4	1943.7	1677.1	1422.7	1215.6	1107.0	1074.5	1107.0	1212.7
28°	<b>2254.2</b>	2224.4	2115.4	1933.8	1663.8	1408.6	1200.9	1091.9	1059.4	1091.9	1198.1
28.5°	<b>2245.7</b>	2215.5	2106.9	1923.9	1651.1	1393.9	1186.8	1077.3	1044.7	1077.3	1183.5
29°	<b>2236.7</b>	2206.0	2097.5	1913.0	1636.9	1379.3	1171.7	1062.7	1030.6	1062.7	1168.8
29.5°	<b>2227.3</b>	2196.6	2087.6	1901.7	1622.8	1364.7	1157.5	1048.0	1016.0	1048.5	1154.2
30°	<b>2217.8</b>	2186.7	2077.7	1889.9	1607.7	1349.1	1142.4	1033.9	1001.3	1033.4	1139.6
30.5°	<b>2207.9</b>	2176.3	2067.3	1877.6	1592.6	1333.5	1127.8	1018.8	986.7	1019.3	1125.4
31°	<b>2198.5</b>	2165.9	2056.5	1864.9	1577.0	1318.4	1113.2	1004.2	972.5	1005.1	1110.8
31.5°	<b>2189.0</b>	2155.1	2045.1	1850.7	1561.0	1302.4	1098.5	990.5	958.4	990.5	1096.2
32°	<b>2179.6</b>	2143.7	2033.8	1836.6	1544.5	1286.3	1083.9	975.8	944.2	976.3	1081.5
32.5°	<b>2168.3</b>	2132.9	2021.5	1821.5	1527.0	1270.3	1069.3	961.2	930.1	962.2	1067.4
33°	<b>2155.5</b>	2121.6	2009.7	1805.9	1509.1	1253.8	1054.7	947.5	915.9	948.0	1052.8
33.5°	<b>2140.0</b>	2110.7	1997.5	1789.8	1491.6	1237.3	1040.0	933.4	901.8	934.3	1038.1
34°	<b>2115.9</b>	2099.4	1984.7	1773.3	1473.2	1220.3	1024.9	919.2	888.1	919.7	1023.5
34.5°	<b>2094.7</b>	2087.1	1971.0	1755.4	1454.8	1203.3	1010.3	904.6	873.9	906.0	1008.9
35°	<b>2062.1</b>	2072.5	1957.4	1737.0	1435.5	1185.8	995.7	890.9	859.8	891.9	994.7
35.5°	<b>2031.9</b>	2056.0	1943.2	1718.1	1416.1	1168.8	981.5	876.8	846.1	878.2	980.1
36°	<b>2002.7</b>	2032.9	1928.6	1698.3	1395.8	1151.4	966.4	863.1	832.4	864.5	965.5
36.5°	<b>1964.9</b>	2010.2	1913.5	1678.5	1375.1	1133.9	951.3	848.9	818.2	850.3	950.4
37°	<b>1934.2</b>	1980.5	1897.9	1657.7	1354.3	1116.0	936.7	834.8	804.6	836.2	936.2
37.5°	<b>1897.0</b>	1948.9	1881.9	1635.5	1333.1	1098.1	921.6	821.1	790.9	822.5	921.1
38°	<b>1858.3</b>	1922.4	1865.8	1612.9	1310.4	1080.1	907.0	806.9	777.2	808.8	906.5
38.5°	<b>1823.3</b>	1885.2	1848.8	1590.2	1289.2	1062.2	891.9	793.2	763.5	795.1	891.9
39°	<b>1781.8</b>	1853.5	1832.3	1567.1	1266.5	1044.3	876.8	779.5	749.3	781.4	877.7
39.5°	<b>1746.0</b>	1819.6	1814.4	1542.6	1243.9	1025.9	861.7	765.4	735.7	767.7	862.6
40°	<b>1706.8</b>	1780.4	1796.4	1517.1	1220.3	1007.0	846.6	751.7	722.0	754.1	847.5
40.5°	<b>1663.4</b>	1749.3	1778.0	1491.6	1197.2	988.6	831.9	738.0	708.8	740.4	832.9
41°	<b>1628.0</b>	1709.1	1761.1	1465.7	1173.6	970.2	816.4	724.3	695.1	726.7	818.7
41.5°	<b>1585.0</b>	1671.4	1742.2	1438.3	1149.5	951.3	801.3	710.7	681.9	713.5	803.1
42°	<b>1546.3</b>	1636.0	1721.4	1410.4	1125.4	932.9	786.6	697.0	668.2	699.8	788.5
42.5°	<b>1507.7</b>	1595.0	1699.2	1383.1	1101.4	914.0	772.0	683.8	654.5	686.1	774.4
43°	<b>1463.8</b>	1560.5	1676.1	1354.8	1076.8	895.6	756.9	670.1	640.8	672.9	759.7
43.5°	<b>1429.8</b>	1521.3	1645.9	1325.5	1052.3	876.8	741.3	656.4	627.6	659.2	744.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1312.3	1404.3	1547.8	1237.7	978.7	820.1	697.0	615.8	587.0	619.1	701.2
45.5°	1270.8	1369.4	1515.2	1207.5	953.7	801.7	682.3	602.1	573.8	605.9	686.6
46°	1239.2	1331.6	1477.9	1177.8	929.6	782.8	667.2	588.9	560.1	592.2	672.0
46.5°	1198.6	1291.5	1440.2	1147.1	905.1	764.4	652.6	575.2	546.4	579.0	656.9
47°	1165.1	1259.0	1405.3	1116.5	880.5	746.0	637.5	561.5	533.2	565.3	642.7
47.5°	1130.6	1218.4	1364.7	1086.3	856.0	727.6	622.9	548.3	520.0	552.6	628.1
48°	1091.9	1186.8	1327.9	1056.1	831.9	709.7	608.7	534.6	506.8	538.9	613.4
48.5°	1064.1	1150.9	1290.1	1025.4	807.9	690.8	594.1	521.4	493.6	525.7	598.8
49°	1024.9	1114.1	1249.5	995.2	783.8	672.9	579.0	507.7	479.9	512.5	584.7
49.5°	998.5	1083.9	1214.1	964.5	760.7	655.0	564.8	494.5	466.7	499.2	570.0
50°	965.0	1045.2	1174.5	934.3	737.5	637.5	550.2	481.3	453.0	486.0	555.9
50.5°	934.3	1017.8	1136.8	904.1	713.5	619.6	536.1	467.6	439.8	472.8	541.7
51°	907.4	982.0	1100.0	873.9	690.8	602.1	521.9	454.9	427.1	459.6	527.1
51.5°	873.0	953.7	1060.8	844.7	669.1	585.6	507.7	441.2	413.4	446.4	513.4
52°	851.3	923.9	1027.3	815.4	647.4	568.1	493.6	428.0	401.1	433.7	499.2
52.5°	819.2	891.9	990.5	786.6	625.2	551.6	480.4	414.8	395.0	420.4	485.6
53°	797.0	866.4	955.6	758.3	604.9	535.1	466.2	404.4	389.3	409.6	471.9
53.5°	771.1	832.4	921.1	730.5	584.2	518.6	452.5	394.0	383.6	398.7	458.2
54°	745.1	809.7	885.7	703.1	564.8	503.0	439.3	384.1	378.4	387.9	445.0
54.5°	723.9	779.1	855.0	676.7	545.5	487.0	426.1	373.7	372.8	377.0	432.2
55°	697.4	755.5	821.1	651.2	526.6	471.9	412.9	363.8	367.1	366.2	419.0
55.5°	679.5	730.0	791.8	626.7	508.7	457.3	400.2	358.2	361.0	360.5	406.3
56°	653.1	704.0	759.7	602.6	490.8	442.2	387.4	352.5	354.9	355.3	394.0
56.5°	636.6	682.3	731.4	579.5	474.2	428.0	374.2	346.4	348.7	349.2	381.8
57°	614.4	655.4	703.1	557.3	457.7	413.8	361.5	340.7	342.1	343.5	369.5
57.5°	596.9	636.6	674.3	535.6	442.2	401.1	350.1	334.6	335.5	337.4	356.7
58°	578.1	611.1	648.4	515.3	427.1	387.9	337.9	328.4	328.9	331.3	345.4
58.5°	559.2	593.6	621.9	495.5	412.4	374.7	326.1	322.3	321.8	325.1	333.1
59°	542.7	570.0	598.3	477.1	398.7	361.9	314.7	316.2	314.7	319.0	321.8
59.5°	523.8	553.5	573.3	458.7	385.5	350.1	303.4	309.6	307.7	312.4	311.0
60°	507.3	532.3	551.2	441.7	372.3	338.8	292.6	303.4	300.6	305.8	300.1
60.5°	490.3	516.2	528.5	425.2	358.6	327.5	282.2	296.3	293.5	299.2	289.7
61°	474.2	496.4	508.2	409.1	346.4	316.6	272.7	290.2	286.4	292.6	279.8
61.5°	459.1	480.4	487.0	394.0	334.6	305.8	266.6	283.1	278.9	286.0	270.9
62°	444.5	462.9	469.0	379.4	323.2	295.9	261.4	276.5	271.8	278.9	264.3
62.5°	429.4	447.8	449.2	365.7	311.9	286.0	255.8	269.9	264.7	272.3	259.1
63°	416.2	431.3	432.2	352.5	301.5	276.5	250.1	262.8	257.6	265.2	253.4
63.5°	402.0	417.1	414.8	339.3	291.1	267.1	244.9	256.2	251.0	258.6	248.2
64°	389.8	401.6	398.7	327.0	281.2	258.1	239.2	249.6	244.4	251.5	243.0
64.5°	376.1	388.4	382.7	315.2	271.3	249.6	233.6	243.0	237.8	245.4	237.4
65°	364.8	374.2	368.1	303.9	261.9	241.1	227.9	236.4	231.7	238.8	232.2
65.5°	352.5	361.9	353.9	293.5	252.9	233.1	222.7	230.3	225.6	232.2	226.5
66°	341.2	348.2	340.2	282.7	244.0	225.1	216.6	224.1	219.4	225.6	220.8





TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	307.2	312.9	301.5	252.9	219.0	202.9	199.6	205.7	201.5	207.2	203.9
68°	296.8	301.1	289.3	243.5	210.9	195.8	193.9	200.1	195.8	201.5	198.2
68.5°	286.4	290.2	278.4	234.5	203.4	189.2	188.3	194.4	189.7	195.4	192.5
69°	276.0	279.8	266.6	225.6	196.3	182.6	182.6	188.3	184.0	189.7	186.4
69.5°	266.1	269.0	256.2	217.1	188.3	176.5	177.0	182.6	178.4	183.6	180.7
70°	256.7	259.1	246.3	209.0	181.7	169.9	171.3	177.0	172.7	177.9	175.1
70.5°	246.8	248.7	235.9	200.5	174.6	164.2	166.1	171.3	167.0	172.2	169.9
71°	237.4	239.2	226.5	193.0	168.0	158.1	160.4	165.6	161.9	166.6	164.2
71.5°	228.4	229.8	217.1	185.4	161.4	152.4	154.8	160.4	156.2	160.9	158.6
72°	219.4	220.4	207.6	177.9	154.8	146.8	149.6	154.8	150.5	155.2	152.9
72.5°	210.5	211.4	198.7	170.8	148.6	141.1	144.4	149.1	145.3	149.6	147.7
73°	201.5	202.0	190.2	164.2	142.5	135.9	139.2	143.5	139.7	143.9	142.5
73.5°	193.0	193.5	181.7	157.1	136.4	131.2	134.0	138.3	134.5	138.7	136.8
74°	184.5	185.0	173.2	150.5	130.2	126.0	128.8	132.6	129.3	133.1	131.7
74.5°	176.0	176.5	165.6	143.9	124.6	121.7	123.6	127.4	123.6	127.9	126.5
75°	169.4	169.4	158.1	137.3	118.9	117.5	118.4	121.7	118.4	122.2	121.3
75.5°	161.4	161.4	150.5	131.2	113.7	113.3	113.3	116.6	113.3	117.0	116.1
76°	153.4	153.4	143.0	125.0	108.1	109.0	108.5	110.9	108.1	111.8	110.9
76.5°	144.9	145.3	135.4	118.9	102.9	104.3	103.3	105.7	102.9	106.2	105.7
77°	136.8	137.3	127.9	112.8	97.7	100.0	98.2	100.5	97.7	101.0	100.5
77.5°	129.8	130.2	120.8	106.6	92.5	95.3	93.0	95.3	92.5	95.8	95.3
78°	122.2	122.7	114.2	101.0	87.3	91.1	88.2	89.7	86.8	90.6	90.6
78.5°	114.7	115.6	107.1	95.3	82.6	86.4	83.1	84.5	81.6	85.4	85.4
79°	107.6	108.1	100.5	89.7	77.9	81.6	78.3	79.3	76.4	79.7	80.2
79.5°	100.5	101.5	93.9	84.5	73.1	77.4	73.6	74.1	71.7	74.6	75.0
80°	93.4	94.4	87.3	78.8	68.4	72.7	68.9	68.9	66.5	69.4	70.3
80.5°	86.8	87.8	81.2	73.6	63.7	68.4	64.2	63.2	61.3	64.2	65.6
81°	80.2	81.2	75.0	68.4	59.5	63.7	59.5	58.5	56.6	59.0	60.4
81.5°	73.6	74.6	68.9	63.2	55.2	59.5	54.7	52.9	51.4	53.8	55.7
82°	67.0	68.0	63.2	58.5	50.5	55.2	50.0	48.1	46.7	49.1	51.4
82.5°	60.9	61.8	57.6	53.8	46.7	51.0	45.8	43.4	41.5	44.4	46.7
83°	54.7	55.7	52.4	49.1	42.5	46.7	41.5	38.7	36.8	39.2	42.9
83.5°	48.1	49.1	46.7	44.4	38.7	42.5	37.3	34.4	32.1	34.4	38.7
84°	42.0	42.9	42.0	39.6	34.4	38.2	33.5	29.7	27.4	29.7	34.9
84.5°	35.9	37.3	37.3	35.4	30.7	34.0	29.3	25.0	22.7	25.0	30.7
85°	30.2	31.6	33.0	31.1	26.4	29.7	25.0	21.2	18.4	20.8	26.9
85.5°	24.1	26.0	28.3	26.9	22.7	25.5	21.2	17.9	15.6	17.5	23.1
86°	19.8	21.7	24.1	22.7	19.3	21.7	17.5	15.1	13.2	14.6	19.3
86.5°	16.5	17.9	19.8	18.9	15.6	17.5	13.7	12.3	10.9	11.8	16.0
87°	13.7	14.6	16.0	14.6	12.3	13.7	10.4	9.4	8.0	9.4	12.7
87.5°	10.4	10.9	12.3	10.9	9.0	9.9	6.6	6.1	5.7	6.6	9.0
88°	7.6	7.6	8.5	7.1	5.7	6.1	3.3	3.3	3.3	3.8	5.7
88.5°	4.2	4.2	4.7	3.3	2.4	2.8	0.9	0.9	1.4	1.4	2.4



TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**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: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1989.0	1989.0	1989.0	1989.0	1989.0	1989.0
0.5°	1985.7	1992.7	2000.3	1997.0	1998.9	2001.2
1°	1978.6	1991.8	2005.5	2008.3	2013.0	2016.8
1.5°	1971.5	1990.9	2011.2	2018.7	2027.7	2032.9
2°	1964.0	1989.9	2015.9	2029.1	2041.8	2048.4
2.5°	1956.9	1988.5	2020.6	2039.5	2055.5	2063.5
3°	1948.9	1986.6	2024.8	2049.4	2069.2	2078.6
3.5°	1940.8	1984.7	2029.1	2059.3	2082.9	2093.3
4°	1932.8	1982.8	2032.9	2068.7	2095.6	2107.4
4.5°	1924.3	1980.5	2037.1	2077.7	2108.4	2121.6
5°	1915.8	1978.1	2040.4	2086.7	2120.6	2135.3
5.5°	1907.3	1974.8	2043.7	2095.1	2132.9	2148.0
6°	1898.4	1972.0	2046.5	2103.6	2144.2	2160.7
6.5°	1889.4	1968.7	2048.9	2111.2	2155.1	2173.5
7°	1880.4	1965.4	2051.7	2118.7	2165.9	2185.3
7.5°	1871.0	1961.6	2053.6	2125.8	2176.3	2196.6
8°	1861.6	1957.8	2055.5	2132.9	2186.2	2207.5
8.5°	1852.1	1953.6	2056.9	2139.0	2195.7	2218.3
9°	1842.2	1949.3	2058.3	2145.2	2204.6	2228.7
9.5°	1832.3	1944.6	2059.3	2150.8	2213.6	2238.6
10°	1822.4	1939.9	2059.8	2156.5	2221.6	2247.6
10.5°	1812.0	1934.7	2060.2	2161.2	2229.2	2256.5
11°	1801.6	1929.5	2060.2	2165.9	2236.7	2265.0
11.5°	1791.3	1924.3	2059.8	2169.7	2243.8	2273.0
12°	1780.9	1918.2	2059.3	2173.5	2249.9	2280.6
12.5°	1770.0	1912.5	2058.8	2177.3	2256.1	2287.7
13°	1759.2	1906.4	2057.4	2180.1	2261.7	2293.8
13.5°	1747.8	1900.3	2056.0	2182.9	2266.9	2299.9
14°	1736.5	1893.7	2054.1	2185.3	2271.2	2305.1
14.5°	1725.2	1887.0	2052.2	2186.7	2275.4	2310.3
15°	1713.9	1880.0	2049.8	2188.6	2279.2	2314.6
15.5°	1702.5	1872.9	2047.5	2189.5	2282.0	2318.8
16°	1691.2	1865.8	2044.2	2190.0	2284.8	2322.1
16.5°	1679.4	1858.3	2040.9	2190.0	2286.7	2325.0
17°	1667.2	1850.7	2037.6	2189.5	2288.1	2327.3
17.5°	1655.4	1842.7	2033.8	2189.0	2289.6	2329.2
18°	1643.6	1834.7	2029.6	2188.1	2290.0	2330.6
18.5°	1631.3	1826.6	2024.8	2186.7	2290.0	2331.6
19°	1619.5	1818.2	2020.6	2184.3	2290.0	2331.6
19.5°	1606.7	1809.7	2015.4	2182.0	2289.1	2331.6
20°	1594.5	1801.2	2010.2	2179.6	2287.7	2331.1
20.5°	1582.2	1792.2	2004.5	2176.3	2285.8	2329.7
21°	1569.5	1782.8	1998.9	2172.5	2283.4	2328.3

TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1531.2	1754.4	1979.5	2159.3	2273.5	2319.8
23°	1518.5	1744.5	1972.5	2154.1	2269.3	2316.5
23.5°	1505.3	1734.6	1964.9	2148.5	2264.5	2312.2
24°	1492.6	1724.2	1957.4	2142.3	2259.4	2307.5
24.5°	1478.9	1713.4	1949.3	2136.2	2253.7	2302.3
25°	1465.7	1702.5	1941.3	2129.1	2247.6	2297.1
25.5°	1452.4	1691.2	1932.3	2122.0	2241.0	2291.0
26°	1438.8	1679.9	1923.9	2114.0	2233.9	2284.4
26.5°	1425.1	1668.1	1914.4	2106.5	2226.3	2277.3
27°	1411.4	1655.8	1905.0	2098.0	2219.2	2270.2
27.5°	1397.2	1642.6	1894.6	2089.0	2210.8	2262.7
28°	1382.6	1629.9	1884.2	2080.0	2202.3	2254.2
28.5°	1368.5	1616.2	1873.4	2070.6	2192.8	2245.7
29°	1353.8	1602.0	1861.6	2060.7	2183.9	2236.7
29.5°	1338.7	1587.9	1849.8	2050.8	2173.9	2227.3
30°	1323.2	1573.2	1837.0	2039.9	2164.0	2217.8
30.5°	1308.0	1557.7	1823.8	2029.1	2153.2	2207.9
31°	1292.5	1542.6	1810.1	2017.8	2142.3	2198.5
31.5°	1276.9	1526.5	1796.0	2006.4	2131.5	2189.0
32°	1261.3	1510.5	1781.3	1994.2	2119.7	2179.6
32.5°	1244.8	1493.5	1765.8	1981.9	2108.4	2168.3
33°	1228.8	1477.0	1750.2	1969.6	2096.6	2155.5
33.5°	1212.7	1460.0	1733.7	1956.9	2084.8	2140.0
34°	1196.2	1442.1	1716.7	1943.7	2073.9	2115.9
34.5°	1179.2	1424.1	1699.7	1930.0	2062.1	2094.7
35°	1162.7	1405.7	1681.8	1915.8	2048.0	2062.1
35.5°	1146.2	1385.9	1662.9	1901.7	2032.9	2031.9
36°	1128.7	1366.6	1644.0	1886.6	2012.6	2002.7
36.5°	1111.7	1345.8	1624.7	1871.5	1988.0	1964.9
37°	1094.8	1325.0	1603.9	1855.9	1964.4	1934.2
37.5°	1077.3	1303.3	1582.7	1839.9	1931.4	1897.0
38°	1059.8	1281.2	1560.0	1823.3	1903.6	1858.3
38.5°	1041.0	1259.0	1536.4	1805.9	1871.9	1823.3
39°	1023.0	1236.3	1512.8	1789.4	1835.6	1781.8
39.5°	1005.1	1213.7	1487.8	1772.4	1807.3	1746.0
40°	986.7	1190.6	1461.4	1754.4	1770.0	1706.8
40.5°	968.3	1167.0	1435.0	1735.6	1734.2	1663.4
41°	949.4	1142.9	1408.1	1718.1	1701.1	1628.0
41.5°	931.0	1120.2	1381.2	1700.2	1662.0	1585.0
42°	912.6	1096.2	1353.4	1681.3	1627.0	1546.3
42.5°	893.7	1071.6	1325.5	1662.0	1589.8	1507.7
43°	875.3	1047.6	1296.7	1641.2	1550.1	1463.8
43.5°	856.5	1023.5	1267.9	1618.5	1516.6	1429.8

TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	800.8	950.4	1179.7	1533.1	1404.3	1312.3
45.5°	781.9	926.3	1150.4	1497.3	1363.3	1270.8
46°	763.0	902.2	1120.2	1464.2	1330.7	1239.2
46.5°	744.6	878.2	1090.5	1429.8	1292.5	1198.6
47°	726.7	854.6	1060.8	1390.6	1257.6	1165.1
47.5°	708.8	830.0	1030.6	1355.7	1222.6	1130.6
48°	690.4	806.4	1000.9	1317.5	1183.5	1091.9
48.5°	672.4	783.3	971.6	1278.3	1154.2	1064.1
49°	655.0	759.7	941.9	1242.9	1116.5	1024.9
49.5°	638.0	737.1	912.1	1202.8	1086.3	998.5
50°	620.0	714.4	882.9	1165.5	1054.2	965.0
50.5°	602.1	691.8	853.6	1129.2	1018.3	934.3
51°	585.6	670.1	824.8	1091.0	990.9	907.4
51.5°	569.1	648.4	797.0	1056.5	955.1	873.0
52°	552.6	628.1	769.6	1019.3	930.1	851.3
52.5°	535.6	607.8	742.3	983.9	899.4	819.2
53°	520.0	587.5	714.9	950.8	870.1	797.0
53.5°	504.4	568.1	689.9	915.0	843.7	771.1
54°	488.9	549.7	664.4	883.4	812.1	745.1
54.5°	474.2	532.3	640.3	849.9	789.9	723.9
55°	459.1	514.3	616.7	819.2	759.3	697.4
55.5°	445.0	497.4	594.6	789.0	738.0	679.5
56°	431.3	480.8	572.9	757.8	710.7	653.1
56.5°	417.6	465.7	552.1	730.9	688.5	636.6
57°	405.3	450.2	531.8	702.2	665.4	614.4
57.5°	392.6	435.1	512.9	676.2	641.3	596.9
58°	380.3	420.9	494.5	648.8	621.5	578.1
58.5°	368.1	407.2	476.6	624.8	597.9	559.2
59°	355.3	394.0	460.1	600.7	580.4	542.7
59.5°	344.0	380.8	444.0	577.1	558.2	523.8
60°	333.1	368.5	428.5	554.9	542.2	507.3
60.5°	322.8	356.3	413.4	532.8	521.0	490.3
61°	312.4	344.5	398.7	512.9	505.9	474.2
61.5°	302.5	333.6	385.1	492.2	486.5	459.1
62°	292.6	322.8	371.8	474.2	471.9	444.5
62.5°	283.1	311.9	359.1	455.8	453.9	429.4
63°	274.2	301.5	346.8	438.4	439.8	416.2
63.5°	265.2	291.6	334.6	421.4	423.7	402.0
64°	256.7	282.2	322.8	405.8	410.1	389.8
64.5°	248.7	272.7	311.9	389.8	394.5	376.1
65°	240.7	263.8	301.1	375.1	382.2	364.8
65.5°	232.6	254.8	290.7	361.0	367.6	352.5
66°	225.1	246.3	280.3	347.3	356.3	341.2



TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	203.4	221.8	252.0	309.6	319.0	307.2
68°	196.8	213.8	242.5	297.8	308.1	296.8
68.5°	190.2	206.2	234.1	286.4	296.8	286.4
69°	183.6	199.1	225.6	275.6	286.0	276.0
69.5°	177.4	192.1	217.1	264.7	275.6	266.1
70°	171.3	185.0	209.0	254.3	264.7	256.7
70.5°	165.2	177.9	201.0	244.4	254.8	246.8
71°	159.5	170.8	193.5	234.5	244.9	237.4
71.5°	153.8	164.7	185.9	225.1	235.5	228.4
72°	148.2	158.6	178.4	215.6	226.0	219.4
72.5°	142.5	152.4	171.3	207.2	216.6	210.5
73°	137.3	146.8	164.7	198.2	208.1	201.5
73.5°	132.1	140.6	158.1	189.2	198.7	193.0
74°	127.4	134.5	151.5	181.2	190.2	184.5
74.5°	122.2	128.8	144.9	172.7	181.7	176.0
75°	118.0	123.2	138.3	165.2	173.2	169.4
75.5°	113.7	117.5	132.1	157.6	165.6	161.4
76°	109.5	111.8	125.5	150.1	157.6	153.4
76.5°	104.8	106.6	119.9	142.5	150.1	144.9
77°	100.5	101.5	113.7	135.0	142.0	136.8
77.5°	95.8	96.3	108.1	127.9	134.5	129.8
78°	91.1	91.1	102.4	120.8	126.9	122.2
78.5°	86.8	86.4	96.3	113.7	119.9	114.7
79°	82.1	81.2	91.1	106.6	112.3	107.6
79.5°	77.4	76.4	85.4	100.0	105.2	100.5
80°	73.1	71.7	80.2	93.4	98.2	93.4
80.5°	68.4	67.0	75.0	87.3	91.5	86.8
81°	63.7	62.8	69.8	81.2	84.5	80.2
81.5°	59.5	58.0	64.6	75.0	77.9	73.6
82°	55.2	53.8	59.5	68.9	71.3	67.0
82.5°	51.0	49.5	54.7	63.2	65.1	60.9
83°	46.7	45.3	50.0	57.6	59.0	54.7
83.5°	42.5	41.1	45.3	52.4	52.4	48.1
84°	38.2	37.3	40.6	47.2	46.2	42.0
84.5°	34.0	33.0	36.3	42.0	40.6	35.9
85°	29.7	29.3	31.6	37.3	35.4	30.2
85.5°	25.5	25.5	27.4	32.6	30.2	24.1
86°	21.2	21.7	23.1	28.3	25.5	19.8
86.5°	17.5	17.9	18.9	23.6	21.2	16.5
87°	13.7	14.2	15.1	19.3	17.5	13.7
87.5°	9.9	10.9	11.3	15.6	13.7	10.4
88°	6.1	7.1	7.6	11.8	9.9	7.6
88.5°	2.8	3.8	3.3	8.0	6.6	4.2



TEST NUMBER: P776732

CATALOG NUMBER: HCDJBL54050CSD-HCD6TSQH-HCD6TSQLWW-5000lm-3500K

**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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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°	2325.9	2298.1	2197.1	2030.5	1802.6	1579.9	1393.5	1290.1	1257.6	1289.2	1389.2
22°	2323.1	2295.2	2193.3	2024.8	1793.6	1568.1	1378.4	1274.5	1242.0	1273.6	1374.6



44°	1387.3	1480.3	1616.7	1297.2	1027.8	857.9	726.7	642.7	614.4	645.5	730.0
44.5°	1350.5	1445.4	1584.1	1267.0	1003.2	839.0	712.1	629.0	600.7	632.3	715.4



66.5°	329.4	336.9	326.5	272.3	235.5	217.5	210.9	218.0	213.3	219.4	215.2
67°	318.5	324.2	313.8	262.4	227.0	210.0	205.3	211.9	207.2	213.3	209.5



89°	1.4	0.9	0.9	0.9	0.5	0.5	0.0	0.5	0.0	0.5	0.5
89.5°	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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21.5°	1556.7	1773.8	1992.3	2168.8	2280.6	2325.9
22°	1544.0	1764.4	1986.1	2164.5	2277.3	2323.1



44°	837.6	999.4	1238.2	1591.2	1476.0	1387.3
44.5°	819.7	975.4	1209.0	1561.0	1440.6	1350.5



66.5°	217.5	237.8	270.9	334.6	342.6	329.4
67°	210.5	229.8	260.9	321.3	331.7	318.5

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89°	0.5	0.9	0.9	4.2	2.8	1.4
89.5°	0.0	0.0	0.0	0.9	0.5	0.0

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(END OF REPORT)