

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: P776762

Luminaire Tested: HCDJBS4050CSD-HCD81TRMB-5000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776762
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B045-HCD81TRMB)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD81TRMB-5000lm-3500K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

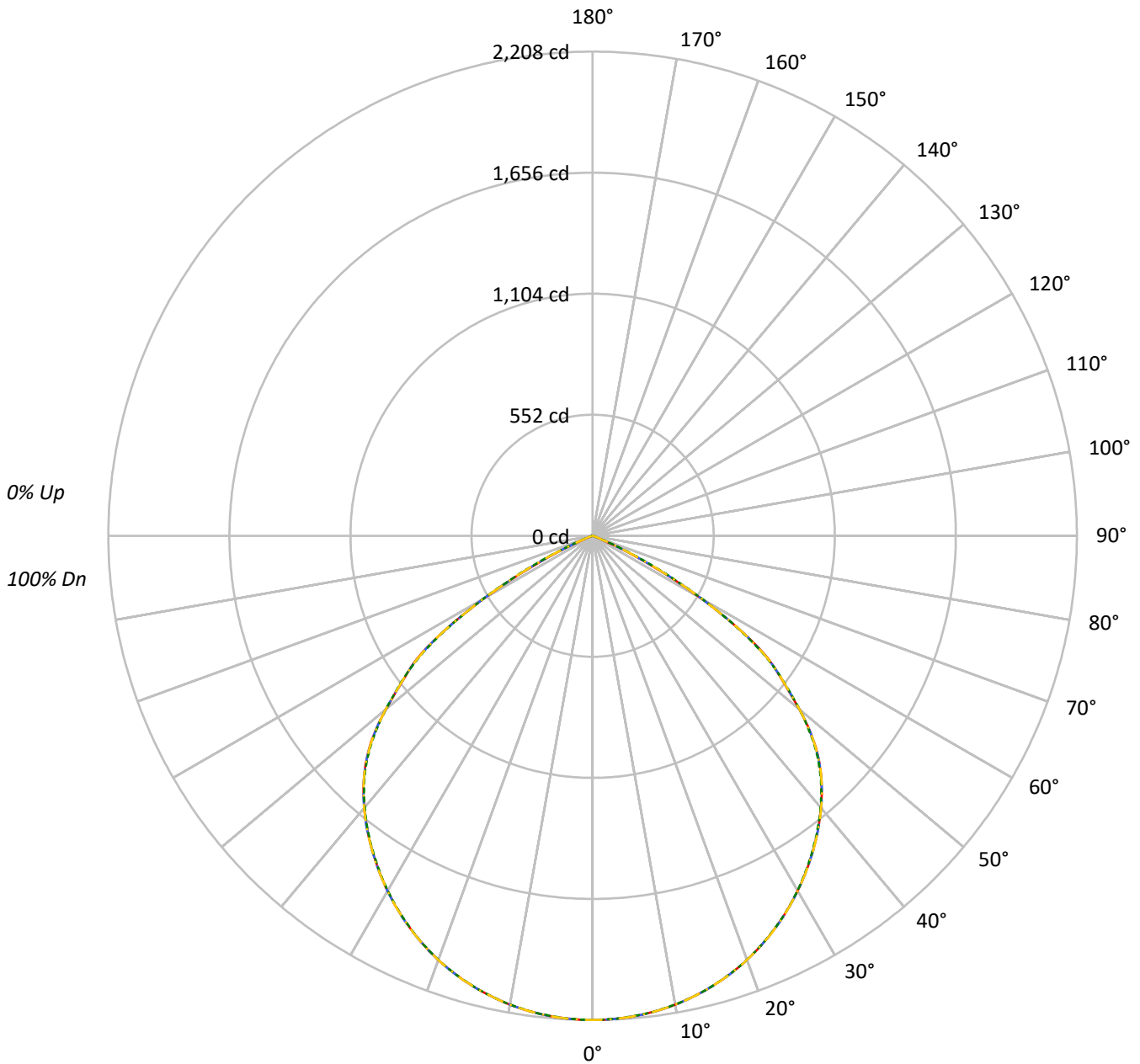
Lumens per Lamp: N/A
Luminaire Lumens: 4987.2 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.37
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776762
CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89			89
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78			78
3	95	86	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68			68
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46			46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			41
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37			37
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33			33
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	42	36	32	30			30

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	67408	67408	67408	67408
5°	67389	67362	67389	67362
10°	67307	67294	67307	67294
15°	67134	67118	67134	67118
20°	66860	66847	66860	66847
25°	66450	66416	66450	66416
30°	65917	65867	65917	65867
35°	65294	65205	65294	65205
40°	64560	64429	64560	64429
45°	63098	62873	63098	62873
50°	58435	58435	58435	58435
55°	52009	51434	52009	51434
60°	34725	35214	34725	35214
65°	12295	14715	12295	14715
70°	125	1393	125	1393
75°	0	0	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 63098 cd/sqm



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL4050CSD-HCD81TRMB-5000lm-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.0	4.2
10°-20°	599.5	12.0
20°-30°	909.0	18.2
30°-40°	1095.8	22.0
40°-50°	1117.1	22.4
50°-60°	839.4	16.8
60°-70°	216.9	4.3
70°-80°	0.6	0.0
80°-90°	0.0	0.0
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°	1717.4	34.4
0°-40°	2813.2	56.4
0°-60°	4769.7	95.6
0°-90°	4987.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4987.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2208	2208	2208	2208	2208	
5°	2199	2198	2199	2198	2199	209
15°	2124	2124	2124	2124	2124	599
25°	1973	1972	1973	1972	1973	909
35°	1752	1750	1752	1750	1752	1096
45°	1461	1456	1461	1456	1461	1118
55°	977	966	977	966	977	839
65°	170	204	170	204	170	203
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9
0.5°	2207.9	2207.9	2207.9	2207.9	2207.4	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9
1°	2207.9	2207.9	2207.9	2207.4	2207.0	2207.4	2207.9	2207.9	2207.9	2207.9	2207.9
1.5°	2207.4	2207.4	2207.4	2207.4	2207.0	2207.4	2207.4	2207.4	2207.4	2207.4	2207.4
2°	2207.0	2207.0	2207.0	2206.5	2206.0	2206.5	2207.0	2207.0	2207.0	2207.0	2207.0
2.5°	2205.5	2206.0	2206.0	2206.0	2205.1	2206.0	2206.0	2206.0	2205.5	2206.0	2206.0
3°	2204.6	2205.1	2205.1	2205.1	2204.1	2205.1	2205.1	2205.1	2204.6	2205.1	2205.1
3.5°	2203.7	2203.7	2203.7	2203.7	2203.2	2203.7	2203.7	2203.7	2203.7	2203.7	2203.7
4°	2202.2	2202.2	2202.2	2202.2	2201.3	2202.2	2202.2	2202.2	2202.2	2202.2	2202.2
4.5°	2200.8	2200.8	2200.8	2200.8	2199.9	2200.8	2200.8	2200.8	2200.8	2200.8	2200.8
5°	2198.9	2198.9	2198.9	2198.9	2198.0	2198.9	2198.9	2198.9	2198.9	2198.9	2198.9
5.5°	2197.1	2197.1	2197.1	2197.1	2196.1	2197.1	2197.1	2197.1	2197.1	2197.1	2197.1
6°	2194.7	2195.2	2194.7	2194.7	2194.2	2194.7	2194.7	2195.2	2194.7	2195.2	2194.7
6.5°	2192.3	2192.8	2192.8	2192.3	2191.9	2192.3	2192.8	2192.8	2192.3	2192.8	2192.8
7°	2190.0	2190.0	2190.0	2190.0	2189.5	2190.0	2190.0	2190.0	2190.0	2190.0	2190.0
7.5°	2187.2	2187.2	2187.2	2187.6	2186.7	2187.6	2187.2	2187.2	2187.2	2187.2	2187.2
8°	2184.3	2184.3	2184.3	2184.3	2183.9	2184.3	2184.3	2184.3	2184.3	2184.3	2184.3
8.5°	2181.5	2181.5	2181.5	2181.5	2180.6	2181.5	2181.5	2181.5	2181.5	2181.5	2181.5
9°	2178.2	2178.2	2178.2	2178.2	2177.7	2178.2	2178.2	2178.2	2178.2	2178.2	2178.2
9.5°	2174.4	2174.9	2174.9	2174.9	2174.0	2174.9	2174.9	2174.9	2174.4	2174.9	2174.9
10°	2171.1	2171.1	2171.1	2171.1	2170.7	2171.1	2171.1	2171.1	2171.1	2171.1	2171.1
10.5°	2167.4	2167.4	2167.4	2167.4	2166.9	2167.4	2167.4	2167.4	2167.4	2167.4	2167.4
11°	2163.1	2163.1	2163.1	2163.6	2162.6	2163.6	2163.1	2163.1	2163.1	2163.1	2163.1
11.5°	2158.9	2158.9	2158.9	2159.3	2158.4	2159.3	2158.9	2158.9	2158.9	2158.9	2158.9
12°	2154.6	2154.6	2154.6	2154.6	2154.1	2154.6	2154.6	2154.6	2154.6	2154.6	2154.6
12.5°	2149.9	2149.9	2149.9	2150.4	2149.4	2150.4	2149.9	2149.9	2149.9	2149.9	2149.9
13°	2145.2	2145.2	2145.2	2145.2	2144.7	2145.2	2145.2	2145.2	2145.2	2145.2	2145.2
13.5°	2140.0	2140.5	2140.5	2140.5	2139.5	2140.5	2140.5	2140.5	2140.0	2140.5	2140.5
14°	2134.8	2135.3	2135.3	2135.3	2134.3	2135.3	2135.3	2135.3	2134.8	2135.3	2135.3
14.5°	2129.6	2129.6	2129.6	2129.6	2129.2	2129.6	2129.6	2129.6	2129.6	2129.6	2129.6
15°	2124.0	2124.0	2124.0	2124.4	2123.5	2124.4	2124.0	2124.0	2124.0	2124.0	2124.0
15.5°	2118.3	2118.3	2118.3	2118.3	2117.8	2118.3	2118.3	2118.3	2118.3	2118.3	2118.3
16°	2112.2	2112.6	2112.6	2112.6	2111.7	2112.6	2112.6	2112.6	2112.2	2112.6	2112.6
16.5°	2106.0	2106.0	2106.5	2106.5	2106.0	2106.5	2106.5	2106.0	2106.0	2106.0	2106.5
17°	2099.9	2099.9	2100.4	2099.9	2099.4	2099.9	2100.4	2099.9	2099.9	2099.9	2100.4
17.5°	2093.3	2093.3	2093.8	2093.8	2093.3	2093.8	2093.8	2093.3	2093.3	2093.3	2093.8
18°	2086.7	2086.7	2086.7	2086.7	2086.2	2086.7	2086.7	2086.7	2086.7	2086.7	2086.7
18.5°	2079.6	2079.6	2080.1	2080.1	2079.2	2080.1	2080.1	2079.6	2079.6	2079.6	2080.1
19°	2072.6	2072.6	2073.0	2073.0	2072.1	2073.0	2073.0	2072.6	2072.6	2072.6	2073.0
19.5°	2065.5	2065.5	2065.5	2065.5	2065.0	2065.5	2065.5	2065.5	2065.5	2065.5	2065.5
20°	2057.9	2057.9	2057.9	2057.9	2057.5	2057.9	2057.9	2057.9	2057.9	2057.9	2057.9
20.5°	2049.9	2050.4	2050.4	2050.4	2049.5	2050.4	2050.4	2050.4	2049.9	2050.4	2050.4
21°	2042.4	2042.4	2042.4	2042.4	2041.9	2042.4	2042.4	2042.4	2042.4	2042.4	2042.4



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2017.4	2017.9	2017.9	2017.9	2016.9	2017.9	2017.9	2017.9	2017.4	2017.9	2017.9
23°	2008.9	2008.9	2008.9	2008.9	2008.4	2008.9	2008.9	2008.9	2008.9	2008.9	2008.9
23.5°	1999.9	2000.4	2000.4	2000.4	1999.5	2000.4	2000.4	2000.4	1999.9	2000.4	2000.4
24°	1991.0	1991.0	1991.5	1991.0	1990.5	1991.0	1991.5	1991.0	1991.0	1991.0	1991.5
24.5°	1981.6	1982.0	1982.5	1982.0	1981.1	1982.0	1982.5	1982.0	1981.6	1982.0	1982.5
25°	1972.6	1972.6	1973.1	1972.6	1971.6	1972.6	1973.1	1972.6	1972.6	1972.6	1973.1
25.5°	1962.7	1963.2	1963.6	1963.2	1962.2	1963.2	1963.6	1963.2	1962.7	1963.2	1963.6
26°	1953.3	1953.3	1953.7	1953.3	1952.3	1953.3	1953.7	1953.3	1953.3	1953.3	1953.7
26.5°	1943.4	1943.8	1943.8	1943.4	1942.4	1943.4	1943.8	1943.8	1943.4	1943.8	1943.8
27°	1933.5	1933.5	1933.9	1933.5	1932.5	1933.5	1933.9	1933.5	1933.5	1933.5	1933.9
27.5°	1923.1	1923.5	1923.5	1923.1	1922.1	1923.1	1923.5	1923.5	1923.1	1923.5	1923.5
28°	1912.7	1913.2	1913.2	1912.7	1911.8	1912.7	1913.2	1913.2	1912.7	1913.2	1913.2
28.5°	1902.3	1902.3	1902.8	1902.3	1901.4	1902.3	1902.8	1902.3	1902.3	1902.3	1902.8
29°	1891.5	1892.0	1892.0	1891.5	1890.1	1891.5	1892.0	1892.0	1891.5	1892.0	1892.0
29.5°	1880.6	1881.1	1881.1	1880.6	1879.2	1880.6	1881.1	1881.1	1880.6	1881.1	1881.1
30°	1869.8	1870.3	1870.3	1869.3	1868.4	1869.3	1870.3	1870.3	1869.8	1870.3	1870.3
30.5°	1858.9	1858.9	1858.9	1858.5	1857.1	1858.5	1858.9	1858.9	1858.9	1858.9	1858.9
31°	1847.2	1847.6	1848.1	1846.7	1845.7	1846.7	1848.1	1847.6	1847.2	1847.6	1848.1
31.5°	1835.8	1836.3	1836.3	1835.4	1833.9	1835.4	1836.3	1836.3	1835.8	1836.3	1836.3
32°	1824.5	1825.0	1825.0	1824.0	1822.2	1824.0	1825.0	1825.0	1824.5	1825.0	1825.0
32.5°	1812.7	1813.2	1813.2	1811.8	1810.4	1811.8	1813.2	1813.2	1812.7	1813.2	1813.2
33°	1800.5	1801.4	1801.4	1800.5	1798.6	1800.5	1801.4	1801.4	1800.5	1801.4	1801.4
33.5°	1788.7	1789.1	1789.6	1788.2	1786.3	1788.2	1789.6	1789.1	1788.7	1789.1	1789.6
34°	1776.4	1776.9	1777.4	1775.9	1774.5	1775.9	1777.4	1776.9	1776.4	1776.9	1777.4
34.5°	1764.2	1764.6	1765.1	1763.7	1762.3	1763.7	1765.1	1764.6	1764.2	1764.6	1765.1
35°	1751.9	1752.4	1752.8	1751.4	1749.5	1751.4	1752.8	1752.4	1751.9	1752.4	1752.8
35.5°	1739.2	1740.1	1740.1	1738.7	1736.8	1738.7	1740.1	1740.1	1739.2	1740.1	1740.1
36°	1726.9	1727.4	1727.8	1726.0	1724.1	1726.0	1727.8	1727.4	1726.9	1727.4	1727.8
36.5°	1714.2	1714.6	1715.1	1713.2	1711.3	1713.2	1715.1	1714.6	1714.2	1714.6	1715.1
37°	1701.0	1701.4	1701.9	1700.0	1698.6	1700.0	1701.9	1701.4	1701.0	1701.4	1701.9
37.5°	1687.8	1688.7	1689.2	1686.8	1684.9	1686.8	1689.2	1688.7	1687.8	1688.7	1689.2
38°	1674.6	1675.0	1676.0	1673.6	1672.2	1673.6	1676.0	1675.0	1674.6	1675.0	1676.0
38.5°	1660.9	1661.8	1662.3	1660.4	1658.5	1660.4	1662.3	1661.8	1660.9	1661.8	1662.3
39°	1647.7	1648.6	1649.1	1646.7	1644.8	1646.7	1649.1	1648.6	1647.7	1648.6	1649.1
39.5°	1634.0	1634.5	1634.9	1633.1	1630.7	1633.1	1634.9	1634.5	1634.0	1634.5	1634.9
40°	1619.9	1620.8	1620.8	1618.9	1616.6	1618.9	1620.8	1620.8	1619.9	1620.8	1620.8
40.5°	1605.7	1606.2	1606.7	1604.3	1602.4	1604.3	1606.7	1606.2	1605.7	1606.2	1606.7
41°	1591.1	1592.0	1592.5	1590.1	1587.8	1590.1	1592.5	1592.0	1591.1	1592.0	1592.5
41.5°	1576.5	1576.9	1577.4	1575.1	1573.2	1575.1	1577.4	1576.9	1576.5	1576.9	1577.4
42°	1561.4	1561.9	1562.3	1560.0	1557.6	1560.0	1562.3	1561.9	1561.4	1561.9	1562.3
42.5°	1545.8	1546.8	1546.8	1544.4	1542.0	1544.4	1546.8	1546.8	1545.8	1546.8	1546.8
43°	1530.3	1530.7	1530.7	1528.4	1526.0	1528.4	1530.7	1530.7	1530.3	1530.7	1530.7
43.5°	1513.8	1514.2	1514.2	1511.9	1509.5	1511.9	1514.2	1514.2	1513.8	1514.2	1514.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1461.4	1461.4	1460.9	1458.6	1456.2	1458.6	1460.9	1461.4	1461.4	1461.4	1460.9
45.5°	1442.5	1442.5	1442.1	1439.2	1436.9	1439.2	1442.1	1442.5	1442.5	1442.5	1442.1
46°	1423.2	1423.2	1422.3	1419.4	1416.6	1419.4	1422.3	1423.2	1423.2	1423.2	1422.3
46.5°	1402.5	1402.5	1401.5	1398.2	1396.3	1398.2	1401.5	1402.5	1402.5	1402.5	1401.5
47°	1380.8	1380.8	1379.4	1376.5	1374.2	1376.5	1379.4	1380.8	1380.8	1380.8	1379.4
47.5°	1358.1	1358.1	1356.7	1353.9	1351.5	1353.9	1356.7	1358.1	1358.1	1358.1	1356.7
48°	1334.6	1334.6	1333.6	1330.8	1328.9	1330.8	1333.6	1334.6	1334.6	1334.6	1333.6
48.5°	1310.0	1310.0	1309.1	1307.2	1305.3	1307.2	1309.1	1310.0	1310.0	1310.0	1309.1
49°	1284.1	1284.1	1283.6	1282.2	1281.3	1282.2	1283.6	1284.1	1284.1	1284.1	1283.6
49.5°	1258.2	1257.7	1258.2	1256.7	1256.3	1256.7	1258.2	1257.7	1258.2	1257.7	1258.2
50°	1230.3	1230.8	1231.7	1230.8	1230.3	1230.8	1231.7	1230.8	1230.3	1230.8	1231.7
50.5°	1201.6	1203.5	1204.9	1204.4	1204.4	1204.4	1204.9	1203.5	1201.6	1203.5	1204.9
51°	1174.2	1175.2	1176.6	1178.0	1178.9	1178.0	1176.6	1175.2	1174.2	1175.2	1176.6
51.5°	1147.3	1147.8	1149.7	1151.1	1152.5	1151.1	1149.7	1147.8	1147.3	1147.8	1149.7
52°	1120.5	1121.4	1123.3	1125.2	1127.5	1125.2	1123.3	1121.4	1120.5	1121.4	1123.3
52.5°	1095.0	1095.9	1098.3	1100.7	1102.5	1100.7	1098.3	1095.9	1095.0	1095.9	1098.3
53°	1070.9	1071.9	1074.2	1076.1	1078.0	1076.1	1074.2	1071.9	1070.9	1071.9	1074.2
53.5°	1048.3	1049.3	1050.2	1051.1	1052.6	1051.1	1050.2	1049.3	1048.3	1049.3	1050.2
54°	1027.1	1026.1	1026.1	1025.7	1025.7	1025.7	1026.1	1026.1	1027.1	1026.1	1026.1
54.5°	1003.5	1002.6	1000.7	998.3	996.4	998.3	1000.7	1002.6	1003.5	1002.6	1000.7
55°	977.1	975.2	972.4	969.1	966.3	969.1	972.4	975.2	977.1	975.2	972.4
55.5°	946.0	943.6	940.8	938.0	935.1	938.0	940.8	943.6	946.0	943.6	940.8
56°	911.1	909.7	906.8	904.0	900.7	904.0	906.8	909.7	911.1	909.7	906.8
56.5°	872.9	871.5	870.5	867.7	865.3	867.7	870.5	871.5	872.9	871.5	870.5
57°	832.8	831.9	831.4	829.0	826.2	829.0	831.4	831.9	832.8	831.9	831.4
57.5°	790.4	790.4	790.4	788.0	786.1	788.0	790.4	790.4	790.4	790.4	790.4
58°	747.4	747.9	748.4	747.0	745.1	747.0	748.4	747.9	747.4	747.9	748.4
58.5°	703.6	703.6	705.0	704.5	702.6	704.5	705.0	703.6	703.6	703.6	705.0
59°	658.8	659.7	661.1	661.6	661.1	661.6	661.1	659.7	658.8	659.7	661.1
59.5°	614.0	614.9	617.3	619.2	619.2	619.2	617.3	614.9	614.0	614.9	617.3
60°	568.7	570.6	573.4	577.2	576.7	577.2	573.4	570.6	568.7	570.6	573.4
60.5°	523.9	526.3	530.0	534.3	534.8	534.3	530.0	526.3	523.9	526.3	530.0
61°	480.5	483.4	487.1	491.9	493.3	491.9	487.1	483.4	480.5	483.4	487.1
61.5°	438.1	440.4	445.6	449.9	452.7	449.9	445.6	440.4	438.1	440.4	445.6
62°	395.7	399.0	404.6	409.8	413.6	409.8	404.6	399.0	395.7	399.0	404.6
62.5°	353.7	357.5	365.0	370.7	374.4	370.7	365.0	357.5	353.7	357.5	365.0
63°	313.6	317.8	326.3	332.5	336.7	332.5	326.3	317.8	313.6	317.8	326.3
63.5°	275.4	279.6	288.6	296.1	303.2	296.1	288.6	279.6	275.4	279.6	288.6
64°	238.6	243.3	252.3	262.2	270.2	262.2	252.3	243.3	238.6	243.3	252.3
64.5°	203.2	209.4	218.8	229.2	236.7	229.2	218.8	209.4	203.2	209.4	218.8
65°	170.2	178.3	187.2	197.1	203.7	197.1	187.2	178.3	170.2	178.3	187.2
65.5°	140.1	149.0	157.0	166.5	172.6	166.5	157.0	149.0	140.1	149.0	157.0
66°	112.2	123.1	129.2	138.6	144.3	138.6	129.2	123.1	112.2	123.1	129.2



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	42.9	58.0	64.6	72.6	76.9	72.6	64.6	58.0	42.9	58.0	64.6
68°	25.0	40.1	49.0	54.7	59.9	54.7	49.0	40.1	25.0	40.1	49.0
68.5°	9.4	26.9	35.4	41.5	47.6	41.5	35.4	26.9	9.4	26.9	35.4
69°	4.7	16.0	22.6	28.8	35.4	28.8	22.6	16.0	4.7	16.0	22.6
69.5°	2.8	7.1	12.7	18.9	25.5	18.9	12.7	7.1	2.8	7.1	12.7
70°	1.4	3.3	7.1	10.8	15.6	10.8	7.1	3.3	1.4	3.3	7.1
70.5°	0.5	1.9	4.2	5.2	6.1	5.2	4.2	1.9	0.5	1.9	4.2
71°	0.5	0.9	2.4	2.8	2.4	2.8	2.4	0.9	0.5	0.9	2.4
71.5°	0.5	0.5	1.4	1.4	0.5	1.4	1.4	0.5	0.5	0.5	1.4
72°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
73°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-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: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2207.9	2207.9	2207.9	2207.9	2207.9	2207.9
0.5°	2207.9	2207.4	2207.9	2207.9	2207.9	2207.9
1°	2207.4	2207.0	2207.4	2207.9	2207.9	2207.9
1.5°	2207.4	2207.0	2207.4	2207.4	2207.4	2207.4
2°	2206.5	2206.0	2206.5	2207.0	2207.0	2207.0
2.5°	2206.0	2205.1	2206.0	2206.0	2206.0	2205.5
3°	2205.1	2204.1	2205.1	2205.1	2205.1	2204.6
3.5°	2203.7	2203.2	2203.7	2203.7	2203.7	2203.7
4°	2202.2	2201.3	2202.2	2202.2	2202.2	2202.2
4.5°	2200.8	2199.9	2200.8	2200.8	2200.8	2200.8
5°	2198.9	2198.0	2198.9	2198.9	2198.9	2198.9
5.5°	2197.1	2196.1	2197.1	2197.1	2197.1	2197.1
6°	2194.7	2194.2	2194.7	2194.7	2195.2	2194.7
6.5°	2192.3	2191.9	2192.3	2192.8	2192.8	2192.3
7°	2190.0	2189.5	2190.0	2190.0	2190.0	2190.0
7.5°	2187.6	2186.7	2187.6	2187.2	2187.2	2187.2
8°	2184.3	2183.9	2184.3	2184.3	2184.3	2184.3
8.5°	2181.5	2180.6	2181.5	2181.5	2181.5	2181.5
9°	2178.2	2177.7	2178.2	2178.2	2178.2	2178.2
9.5°	2174.9	2174.0	2174.9	2174.9	2174.9	2174.4
10°	2171.1	2170.7	2171.1	2171.1	2171.1	2171.1
10.5°	2167.4	2166.9	2167.4	2167.4	2167.4	2167.4
11°	2163.6	2162.6	2163.6	2163.1	2163.1	2163.1
11.5°	2159.3	2158.4	2159.3	2158.9	2158.9	2158.9
12°	2154.6	2154.1	2154.6	2154.6	2154.6	2154.6
12.5°	2150.4	2149.4	2150.4	2149.9	2149.9	2149.9
13°	2145.2	2144.7	2145.2	2145.2	2145.2	2145.2
13.5°	2140.5	2139.5	2140.5	2140.5	2140.5	2140.0
14°	2135.3	2134.3	2135.3	2135.3	2135.3	2134.8
14.5°	2129.6	2129.2	2129.6	2129.6	2129.6	2129.6
15°	2124.4	2123.5	2124.4	2124.0	2124.0	2124.0
15.5°	2118.3	2117.8	2118.3	2118.3	2118.3	2118.3
16°	2112.6	2111.7	2112.6	2112.6	2112.6	2112.2
16.5°	2106.5	2106.0	2106.5	2106.5	2106.0	2106.0
17°	2099.9	2099.4	2099.9	2100.4	2099.9	2099.9
17.5°	2093.8	2093.3	2093.8	2093.8	2093.3	2093.3
18°	2086.7	2086.2	2086.7	2086.7	2086.7	2086.7
18.5°	2080.1	2079.2	2080.1	2080.1	2079.6	2079.6
19°	2073.0	2072.1	2073.0	2073.0	2072.6	2072.6
19.5°	2065.5	2065.0	2065.5	2065.5	2065.5	2065.5
20°	2057.9	2057.5	2057.9	2057.9	2057.9	2057.9
20.5°	2050.4	2049.5	2050.4	2050.4	2050.4	2049.9
21°	2042.4	2041.9	2042.4	2042.4	2042.4	2042.4

TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2017.9	2016.9	2017.9	2017.9	2017.9	2017.4
23°	2008.9	2008.4	2008.9	2008.9	2008.9	2008.9
23.5°	2000.4	1999.5	2000.4	2000.4	2000.4	1999.9
24°	1991.0	1990.5	1991.0	1991.5	1991.0	1991.0
24.5°	1982.0	1981.1	1982.0	1982.5	1982.0	1981.6
25°	1972.6	1971.6	1972.6	1973.1	1972.6	1972.6
25.5°	1963.2	1962.2	1963.2	1963.6	1963.2	1962.7
26°	1953.3	1952.3	1953.3	1953.7	1953.3	1953.3
26.5°	1943.4	1942.4	1943.4	1943.8	1943.8	1943.4
27°	1933.5	1932.5	1933.5	1933.9	1933.5	1933.5
27.5°	1923.1	1922.1	1923.1	1923.5	1923.5	1923.1
28°	1912.7	1911.8	1912.7	1913.2	1913.2	1912.7
28.5°	1902.3	1901.4	1902.3	1902.8	1902.3	1902.3
29°	1891.5	1890.1	1891.5	1892.0	1892.0	1891.5
29.5°	1880.6	1879.2	1880.6	1881.1	1881.1	1880.6
30°	1869.3	1868.4	1869.3	1870.3	1870.3	1869.8
30.5°	1858.5	1857.1	1858.5	1858.9	1858.9	1858.9
31°	1846.7	1845.7	1846.7	1848.1	1847.6	1847.2
31.5°	1835.4	1833.9	1835.4	1836.3	1836.3	1835.8
32°	1824.0	1822.2	1824.0	1825.0	1825.0	1824.5
32.5°	1811.8	1810.4	1811.8	1813.2	1813.2	1812.7
33°	1800.5	1798.6	1800.5	1801.4	1801.4	1800.5
33.5°	1788.2	1786.3	1788.2	1789.6	1789.1	1788.7
34°	1775.9	1774.5	1775.9	1777.4	1776.9	1776.4
34.5°	1763.7	1762.3	1763.7	1765.1	1764.6	1764.2
35°	1751.4	1749.5	1751.4	1752.8	1752.4	1751.9
35.5°	1738.7	1736.8	1738.7	1740.1	1740.1	1739.2
36°	1726.0	1724.1	1726.0	1727.8	1727.4	1726.9
36.5°	1713.2	1711.3	1713.2	1715.1	1714.6	1714.2
37°	1700.0	1698.6	1700.0	1701.9	1701.4	1701.0
37.5°	1686.8	1684.9	1686.8	1689.2	1688.7	1687.8
38°	1673.6	1672.2	1673.6	1676.0	1675.0	1674.6
38.5°	1660.4	1658.5	1660.4	1662.3	1661.8	1660.9
39°	1646.7	1644.8	1646.7	1649.1	1648.6	1647.7
39.5°	1633.1	1630.7	1633.1	1634.9	1634.5	1634.0
40°	1618.9	1616.6	1618.9	1620.8	1620.8	1619.9
40.5°	1604.3	1602.4	1604.3	1606.7	1606.2	1605.7
41°	1590.1	1587.8	1590.1	1592.5	1592.0	1591.1
41.5°	1575.1	1573.2	1575.1	1577.4	1576.9	1576.5
42°	1560.0	1557.6	1560.0	1562.3	1561.9	1561.4
42.5°	1544.4	1542.0	1544.4	1546.8	1546.8	1545.8
43°	1528.4	1526.0	1528.4	1530.7	1530.7	1530.3
43.5°	1511.9	1509.5	1511.9	1514.2	1514.2	1513.8



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1458.6	1456.2	1458.6	1460.9	1461.4	1461.4
45.5°	1439.2	1436.9	1439.2	1442.1	1442.5	1442.5
46°	1419.4	1416.6	1419.4	1422.3	1423.2	1423.2
46.5°	1398.2	1396.3	1398.2	1401.5	1402.5	1402.5
47°	1376.5	1374.2	1376.5	1379.4	1380.8	1380.8
47.5°	1353.9	1351.5	1353.9	1356.7	1358.1	1358.1
48°	1330.8	1328.9	1330.8	1333.6	1334.6	1334.6
48.5°	1307.2	1305.3	1307.2	1309.1	1310.0	1310.0
49°	1282.2	1281.3	1282.2	1283.6	1284.1	1284.1
49.5°	1256.7	1256.3	1256.7	1258.2	1257.7	1258.2
50°	1230.8	1230.3	1230.8	1231.7	1230.8	1230.3
50.5°	1204.4	1204.4	1204.4	1204.9	1203.5	1201.6
51°	1178.0	1178.9	1178.0	1176.6	1175.2	1174.2
51.5°	1151.1	1152.5	1151.1	1149.7	1147.8	1147.3
52°	1125.2	1127.5	1125.2	1123.3	1121.4	1120.5
52.5°	1100.7	1102.5	1100.7	1098.3	1095.9	1095.0
53°	1076.1	1078.0	1076.1	1074.2	1071.9	1070.9
53.5°	1051.1	1052.6	1051.1	1050.2	1049.3	1048.3
54°	1025.7	1025.7	1025.7	1026.1	1026.1	1027.1
54.5°	998.3	996.4	998.3	1000.7	1002.6	1003.5
55°	969.1	966.3	969.1	972.4	975.2	977.1
55.5°	938.0	935.1	938.0	940.8	943.6	946.0
56°	904.0	900.7	904.0	906.8	909.7	911.1
56.5°	867.7	865.3	867.7	870.5	871.5	872.9
57°	829.0	826.2	829.0	831.4	831.9	832.8
57.5°	788.0	786.1	788.0	790.4	790.4	790.4
58°	747.0	745.1	747.0	748.4	747.9	747.4
58.5°	704.5	702.6	704.5	705.0	703.6	703.6
59°	661.6	661.1	661.6	661.1	659.7	658.8
59.5°	619.2	619.2	619.2	617.3	614.9	614.0
60°	577.2	576.7	577.2	573.4	570.6	568.7
60.5°	534.3	534.8	534.3	530.0	526.3	523.9
61°	491.9	493.3	491.9	487.1	483.4	480.5
61.5°	449.9	452.7	449.9	445.6	440.4	438.1
62°	409.8	413.6	409.8	404.6	399.0	395.7
62.5°	370.7	374.4	370.7	365.0	357.5	353.7
63°	332.5	336.7	332.5	326.3	317.8	313.6
63.5°	296.1	303.2	296.1	288.6	279.6	275.4
64°	262.2	270.2	262.2	252.3	243.3	238.6
64.5°	229.2	236.7	229.2	218.8	209.4	203.2
65°	197.1	203.7	197.1	187.2	178.3	170.2
65.5°	166.5	172.6	166.5	157.0	149.0	140.1
66°	138.6	144.3	138.6	129.2	123.1	112.2



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	72.6	76.9	72.6	64.6	58.0	42.9
68°	54.7	59.9	54.7	49.0	40.1	25.0
68.5°	41.5	47.6	41.5	35.4	26.9	9.4
69°	28.8	35.4	28.8	22.6	16.0	4.7
69.5°	18.9	25.5	18.9	12.7	7.1	2.8
70°	10.8	15.6	10.8	7.1	3.3	1.4
70.5°	5.2	6.1	5.2	4.2	1.9	0.5
71°	2.8	2.4	2.8	2.4	0.9	0.5
71.5°	1.4	0.5	1.4	1.4	0.5	0.5
72°	0.5	0.5	0.5	0.5	0.5	0.5
72.5°	0.5	0.5	0.5	0.5	0.5	0.5
73°	0.5	0.5	0.5	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776762

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-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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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2034.4	2034.4	2034.4	2034.4	2033.4	2034.4	2034.4	2034.4	2034.4	2034.4	2034.4	2034.4
22°	2025.9	2025.9	2026.4	2026.4	2025.4	2026.4	2026.4	2026.4	2025.9	2025.9	2025.9	2026.4



44°	1496.8	1497.2	1496.8	1494.4	1492.5	1494.4	1496.8	1497.2	1496.8	1497.2	1496.8
44.5°	1479.3	1479.8	1479.8	1477.0	1474.1	1477.0	1479.8	1479.8	1479.3	1479.8	1479.8



66.5°	88.7	99.5	104.7	113.6	118.8	113.6	104.7	99.5	88.7	99.5	104.7
67°	65.5	76.4	83.9	91.5	95.7	91.5	83.9	76.4	65.5	76.4	83.9



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

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21.5°	2034.4	2033.4	2034.4	2034.4	2034.4	2034.4
22°	2026.4	2025.4	2026.4	2026.4	2025.9	2025.9



44°	1494.4	1492.5	1494.4	1496.8	1497.2	1496.8
44.5°	1477.0	1474.1	1477.0	1479.8	1479.8	1479.3



66.5°	113.6	118.8	113.6	104.7	99.5	88.7
67°	91.5	95.7	91.5	83.9	76.4	65.5

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Peachtree City, GA 30269

Scaled Data Report



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

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Scaled Data Report



(END OF REPORT)