

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: P776662

Luminaire Tested: HCDJBS4050CSD-HCD61TRMB-5000lm-3500K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776662  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B038)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD61TRMB-5000lm-3500K  
Description: 6 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

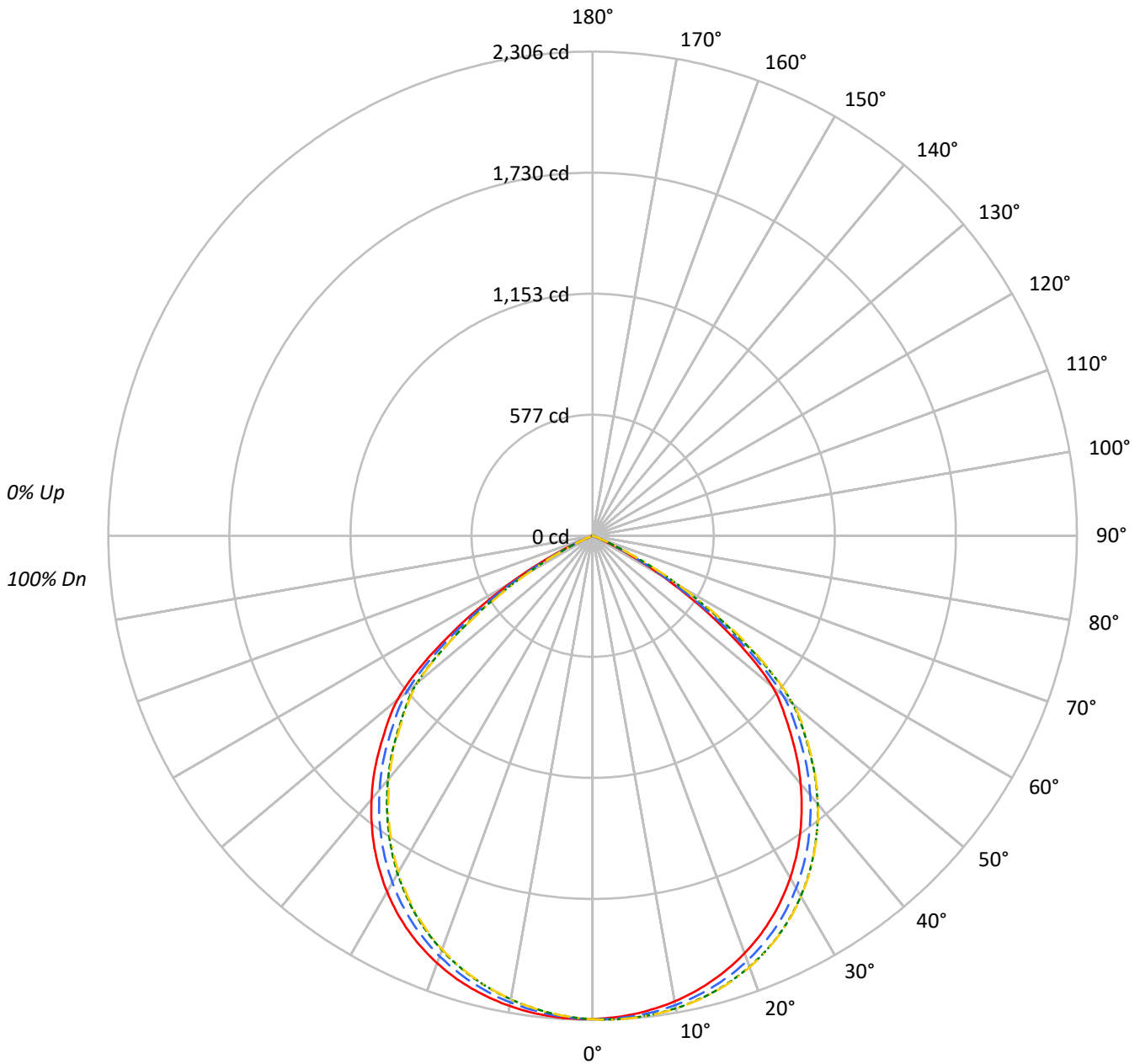
Lumens per Lamp: N/A  
Luminaire Lumens: 4817.5 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.32  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	100	100	100	100		
	1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90	90	90	90	90	90		
	2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79	79	79	79	79	79		
	3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	69	69	69	69	69	69		
	4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61	61	61	61	61	61		
	5	82	71	64	58	81	70	63	58	68	62	57	66	61	56	65	60	56	54	54	54	54	54	54		
	6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48	48	48	48	48	48		
	7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43	43	43	43	43	43		
	8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39	39	39	39	39	39		
	9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35	35	35	35	35	35		
	10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32	32	32	32	32	32		

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

	0°	90°	180°	270°
0°	126212	126212	126212	126212
5°	125814	126750	126414	125583
10°	125298	127219	126584	124803
15°	124564	127481	126624	123843
20°	123444	127434	126338	122481
25°	121719	126854	125542	120461
30°	119107	125494	123911	117581
35°	115349	123051	121251	113582
40°	110278	119295	117234	108425
45°	103491	113508	111205	101553
50°	95383	105924	103306	93165
55°	72083	83543	80790	69876
60°	41784	52233	50215	40962
65°	12855	19821	18173	13893
70°	224	385	224	224
75°	106	191	106	106
80°	158	158	0	158
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 112.5°  
 Vertical Angle: 45°  
 Luminance: 113911 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.9	4.5
10°-20°	624.6	13.0
20°-30°	940.9	19.5
30°-40°	1103.6	22.9
40°-50°	1068.7	22.2
50°-60°	711.0	14.8
60°-70°	150.0	3.1
70°-80°	0.8	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°	1783.4	37.0
0°-40°	2887.0	59.9
0°-60°	4666.7	96.9
0°-90°	4817.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4817.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2302	2302	2302	2302	2302	
5°	2286	2303	2297	2282	2286	217
15°	2195	2246	2231	2182	2195	619
25°	2012	2097	2076	1992	2012	926
35°	1724	1839	1812	1697	1724	1076
45°	1335	1464	1434	1310	1335	1029
55°	754	874	845	731	754	669
65°	99	153	140	107	99	125
75°	0	1	0	0	0	1
85°	0	0	0	0	0	0
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°	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3
0.5°	2300.9	2300.9	2302.3	2303.8	2303.3	2303.8	2303.8	2303.3	2301.9	2301.4	2301.9
1°	2300.0	2300.9	2302.3	2304.2	2304.2	2304.7	2304.7	2303.8	2302.3	2300.9	2300.9
1.5°	2299.0	2300.0	2302.3	2303.8	2304.7	2305.2	2305.2	2304.2	2302.3	2300.9	2300.5
2°	2297.6	2299.0	2301.9	2303.8	2305.2	2306.1	2306.1	2304.2	2302.3	2300.0	2299.5
2.5°	2296.2	2298.1	2300.9	2303.8	2305.2	2306.1	2306.1	2304.2	2301.9	2299.5	2298.1
3°	2294.3	2297.2	2300.5	2303.3	2305.2	2306.1	2306.1	2304.2	2301.4	2298.6	2296.7
3.5°	2292.9	2295.7	2299.5	2302.8	2304.7	2306.1	2306.1	2304.2	2300.5	2297.2	2294.8
4°	2290.6	2293.9	2298.6	2301.9	2304.7	2305.6	2305.6	2303.3	2299.5	2296.2	2293.4
4.5°	2288.7	2292.4	2297.2	2300.9	2303.8	2305.2	2305.2	2302.8	2298.6	2294.8	2291.5
5°	2286.3	2290.6	2295.3	2300.0	2303.3	2304.7	2304.2	2301.9	2297.2	2292.9	2289.1
5.5°	2283.9	2288.2	2293.9	2299.0	2302.3	2303.8	2303.3	2300.5	2295.7	2291.0	2286.8
6°	2280.6	2285.8	2292.4	2297.6	2300.9	2302.8	2302.3	2299.0	2294.3	2288.7	2283.9
6.5°	2277.8	2283.5	2290.1	2295.7	2300.0	2301.4	2300.9	2297.6	2292.4	2286.8	2281.1
7°	2274.5	2280.6	2287.7	2293.9	2298.1	2300.0	2299.5	2295.7	2290.6	2283.9	2278.3
7.5°	2271.2	2277.8	2285.4	2292.0	2296.7	2298.6	2298.1	2293.9	2287.7	2281.6	2275.5
8°	2267.9	2275.0	2282.5	2289.6	2294.8	2296.7	2296.2	2292.0	2285.8	2278.8	2272.2
8.5°	2263.7	2271.7	2279.7	2287.2	2292.4	2294.8	2294.3	2289.6	2283.0	2275.5	2268.4
9°	2259.9	2267.9	2276.4	2284.4	2290.6	2292.4	2292.0	2287.2	2280.2	2272.6	2265.1
9.5°	2255.6	2264.1	2273.1	2281.6	2287.7	2290.1	2289.6	2284.4	2277.3	2268.9	2260.8
10°	2250.9	2260.4	2269.8	2278.3	2285.4	2287.2	2286.8	2282.1	2274.0	2265.1	2257.1
10.5°	2246.7	2256.1	2266.0	2275.0	2282.1	2284.4	2283.9	2278.8	2270.7	2261.3	2252.8
11°	2241.5	2251.9	2262.2	2271.7	2279.2	2281.6	2280.6	2275.5	2267.4	2257.5	2248.1
11.5°	2236.8	2247.2	2258.0	2267.4	2275.9	2278.3	2277.3	2271.7	2263.2	2253.3	2243.9
12°	2231.1	2242.4	2253.8	2263.7	2272.2	2275.0	2274.0	2268.4	2259.4	2249.0	2238.7
12.5°	2225.9	2237.2	2249.0	2259.4	2268.4	2271.2	2270.3	2264.6	2255.6	2244.3	2233.9
13°	2219.8	2232.1	2244.3	2255.2	2264.1	2267.4	2266.0	2260.4	2250.9	2239.6	2228.3
13.5°	2214.1	2226.4	2239.6	2250.5	2260.4	2263.2	2262.2	2256.1	2246.2	2234.4	2222.6
14°	2208.0	2220.7	2233.9	2245.7	2255.6	2258.9	2257.5	2251.4	2241.5	2229.2	2217.0
14.5°	2201.4	2215.1	2228.8	2241.0	2250.9	2254.2	2252.8	2246.7	2236.3	2223.6	2211.3
15°	2194.8	2208.5	2223.1	2235.4	2246.2	2249.5	2248.1	2241.5	2231.1	2217.9	2205.2
15.5°	2187.7	2202.3	2217.4	2230.2	2241.0	2244.3	2243.4	2236.8	2225.5	2212.3	2199.0
16°	2181.1	2195.7	2211.3	2224.5	2235.8	2239.1	2237.7	2231.1	2219.8	2206.1	2192.0
16.5°	2173.6	2188.7	2204.7	2218.9	2230.2	2233.5	2232.1	2225.5	2214.1	2199.5	2184.9
17°	2166.0	2181.6	2198.1	2212.3	2224.5	2227.8	2226.4	2219.3	2208.0	2192.9	2177.8
17.5°	2158.5	2174.5	2191.5	2205.6	2218.4	2222.2	2220.7	2213.7	2201.4	2185.8	2170.3
18°	2150.5	2167.4	2184.4	2199.0	2211.8	2215.6	2214.1	2206.6	2194.8	2178.8	2162.7
18.5°	2142.0	2159.4	2177.3	2192.4	2205.6	2208.9	2207.5	2200.0	2187.7	2171.7	2155.2
19°	2133.5	2150.9	2169.3	2185.4	2198.6	2202.3	2200.9	2192.9	2180.6	2164.1	2147.2
19.5°	2125.0	2142.9	2161.8	2177.8	2192.0	2195.7	2193.9	2185.8	2173.1	2156.6	2139.1
20°	2116.0	2134.9	2153.8	2170.3	2184.4	2188.2	2186.8	2178.8	2165.6	2148.6	2131.1
20.5°	2106.6	2125.9	2145.3	2162.7	2176.9	2180.6	2179.2	2170.7	2158.0	2140.1	2121.7
21°	2097.6	2116.5	2137.3	2154.7	2168.9	2173.1	2171.2	2163.2	2150.0	2131.6	2113.2

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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°	2067.4	2088.7	2109.9	2128.3	2144.3	2148.1	2146.2	2137.7	2123.6	2104.7	2084.4
23°	2057.1	2078.8	2100.5	2119.3	2135.4	2139.6	2137.3	2128.8	2114.6	2094.8	2074.0
23.5°	2046.2	2068.4	2091.0	2109.9	2126.4	2130.6	2128.8	2119.8	2105.6	2084.9	2064.1
24°	2035.4	2058.0	2080.6	2100.5	2117.0	2121.2	2118.9	2109.9	2095.7	2075.0	2053.8
24.5°	2023.6	2046.7	2070.3	2090.1	2107.5	2111.8	2109.4	2100.5	2085.8	2064.6	2042.9
25°	2012.3	2035.4	2059.4	2079.7	2097.2	2101.4	2099.0	2090.6	2075.5	2054.2	2031.6
25.5°	2000.5	2024.5	2048.6	2069.3	2087.3	2091.5	2089.1	2080.2	2065.1	2042.9	2020.3
26°	1988.7	2012.7	2037.7	2058.5	2076.9	2080.6	2078.8	2069.3	2054.2	2031.6	2008.9
26.5°	1975.9	2000.9	2025.9	2047.6	2066.0	2070.3	2067.9	2058.5	2043.4	2020.3	1996.7
27°	1963.7	1988.7	2014.1	2036.3	2054.7	2059.4	2056.6	2047.6	2031.6	2008.5	1984.9
27.5°	1950.5	1975.9	2001.9	2024.5	2043.9	2048.1	2045.7	2036.3	2020.3	1996.7	1972.6
28°	1937.3	1963.2	1989.6	2012.3	2032.1	2035.8	2033.9	2024.5	2008.0	1983.9	1959.9
28.5°	1923.6	1950.5	1977.3	2000.5	2019.8	2024.5	2022.2	2012.7	1995.7	1971.7	1947.2
29°	1909.9	1936.8	1964.1	1988.2	2007.5	2011.8	2009.9	2000.5	1983.9	1958.9	1933.9
29.5°	1896.2	1923.6	1950.9	1975.5	1995.7	1999.5	1997.2	1987.7	1970.7	1946.2	1920.3
30°	1881.6	1909.4	1937.7	1962.3	1982.5	1986.8	1984.4	1975.0	1957.5	1932.1	1906.6
30.5°	1867.0	1895.7	1924.0	1948.6	1969.3	1973.6	1971.7	1962.3	1944.3	1918.4	1892.9
31°	1852.3	1881.1	1909.9	1934.9	1956.1	1959.9	1958.0	1948.6	1930.6	1904.7	1878.3
31.5°	1836.8	1866.5	1895.7	1921.2	1942.4	1946.2	1943.9	1934.9	1916.5	1890.6	1864.1
32°	1821.7	1851.4	1881.1	1907.5	1928.3	1932.5	1930.2	1920.7	1902.3	1875.9	1849.0
32.5°	1805.6	1836.3	1866.0	1892.4	1914.1	1917.9	1916.5	1907.1	1888.2	1861.3	1834.0
33°	1790.1	1820.7	1851.4	1877.8	1900.0	1903.8	1901.9	1892.0	1873.6	1846.2	1818.9
33.5°	1774.0	1805.2	1835.8	1862.7	1884.9	1888.7	1886.8	1876.9	1858.5	1831.1	1803.3
34°	1757.5	1789.1	1820.3	1847.6	1869.8	1874.0	1871.7	1862.3	1842.9	1815.6	1787.3
34.5°	1740.6	1773.1	1804.2	1831.6	1854.2	1858.5	1856.6	1846.7	1827.3	1799.5	1771.2
35°	1723.6	1756.6	1787.7	1816.0	1838.7	1842.4	1840.6	1831.1	1811.8	1783.0	1754.7
35.5°	1706.6	1739.6	1771.7	1799.5	1822.6	1826.9	1824.5	1815.1	1795.3	1767.0	1738.2
36°	1688.7	1722.2	1754.7	1783.5	1806.6	1810.4	1808.5	1799.0	1778.8	1750.9	1721.2
36.5°	1671.7	1705.2	1737.7	1766.5	1790.1	1794.3	1792.4	1782.5	1762.3	1734.0	1704.2
37°	1653.3	1687.7	1720.3	1749.0	1773.6	1777.3	1775.5	1766.0	1745.3	1716.5	1686.8
37.5°	1634.9	1669.8	1702.8	1732.1	1756.1	1760.4	1758.0	1749.0	1727.8	1699.5	1669.8
38°	1616.0	1651.9	1684.9	1714.1	1739.1	1742.9	1741.0	1731.1	1710.8	1681.1	1651.9
38.5°	1598.1	1633.5	1667.4	1696.2	1721.7	1725.5	1724.0	1713.7	1692.9	1664.1	1633.5
39°	1579.7	1615.6	1649.0	1678.8	1703.8	1707.5	1706.1	1696.2	1674.5	1645.7	1615.6
39.5°	1560.4	1596.7	1630.2	1659.9	1685.4	1689.6	1687.7	1677.8	1656.6	1627.3	1596.7
40°	1541.0	1577.3	1611.8	1641.0	1667.0	1671.2	1669.3	1659.9	1638.2	1608.5	1578.3
40.5°	1521.7	1558.5	1592.4	1622.2	1648.1	1652.8	1650.9	1640.6	1619.3	1590.1	1559.4
41°	1501.9	1538.7	1573.1	1602.3	1629.2	1634.0	1632.1	1621.7	1600.5	1570.7	1540.1
41.5°	1481.6	1518.9	1553.3	1583.5	1609.4	1614.6	1613.2	1602.3	1580.7	1551.4	1520.7
42°	1461.8	1498.6	1533.5	1563.2	1590.1	1595.3	1593.4	1583.0	1561.3	1531.6	1500.9
42.5°	1441.5	1479.2	1513.2	1542.9	1570.3	1575.5	1574.0	1562.7	1541.0	1512.3	1481.1
43°	1420.3	1458.5	1492.4	1522.2	1550.0	1554.7	1553.8	1542.4	1520.7	1491.0	1460.8
43.5°	1399.5	1436.8	1471.7	1500.9	1528.8	1534.4	1533.0	1521.7	1500.0	1470.3	1440.1



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1334.9	1372.2	1406.1	1435.4	1464.1	1469.3	1468.9	1456.6	1434.4	1405.2	1375.0
45.5°	1313.2	1350.0	1384.4	1413.2	1442.0	1448.1	1447.2	1434.4	1412.3	1383.0	1352.8
46°	1292.0	1328.8	1362.7	1391.5	1420.3	1426.9	1425.5	1413.2	1390.6	1360.8	1331.6
46.5°	1271.2	1308.0	1341.5	1370.3	1399.0	1406.6	1405.2	1392.0	1368.4	1339.6	1309.9
47°	1250.9	1287.3	1320.7	1349.0	1377.8	1385.4	1384.4	1370.7	1347.2	1317.9	1288.7
47.5°	1230.7	1267.0	1300.0	1328.3	1357.1	1364.6	1363.7	1350.0	1326.4	1297.2	1268.4
48°	1210.4	1246.2	1278.8	1307.1	1336.3	1344.3	1343.4	1329.7	1305.7	1276.4	1248.1
48.5°	1190.6	1225.5	1258.5	1286.3	1315.6	1325.0	1323.1	1309.0	1284.4	1256.1	1227.8
49°	1168.9	1203.3	1234.9	1262.7	1292.4	1301.9	1300.5	1286.3	1261.8	1233.0	1204.7
49.5°	1145.3	1179.7	1210.4	1237.3	1267.9	1276.9	1275.5	1261.3	1236.8	1208.0	1180.7
50°	1118.4	1153.8	1183.5	1209.0	1242.0	1250.9	1250.0	1235.4	1211.3	1182.5	1154.2
50.5°	1088.7	1121.7	1153.8	1180.2	1213.2	1221.2	1218.9	1206.1	1183.0	1152.8	1124.5
51°	1056.1	1088.7	1120.7	1148.1	1181.6	1189.1	1187.3	1175.5	1151.9	1120.7	1092.0
51.5°	1021.2	1053.8	1085.4	1114.1	1148.1	1155.2	1154.2	1141.0	1119.3	1087.7	1057.5
52°	984.0	1017.9	1049.0	1077.4	1111.8	1120.7	1119.8	1106.1	1083.5	1052.4	1023.1
52.5°	947.6	981.1	1011.3	1037.3	1074.5	1085.8	1084.9	1069.8	1045.3	1015.6	987.3
53°	909.9	942.4	972.2	996.7	1035.8	1048.1	1048.1	1032.5	1006.1	977.8	950.5
53.5°	871.7	903.8	932.5	955.7	995.7	1011.3	1011.8	993.4	965.6	939.1	912.7
54°	832.5	864.6	891.0	913.7	955.2	973.1	973.6	954.2	925.5	900.0	873.6
54.5°	793.9	825.5	849.5	871.7	914.1	934.0	934.9	913.7	884.4	858.5	835.4
55°	754.2	785.4	807.5	829.2	874.1	895.7	896.7	873.6	845.3	818.9	796.7
55.5°	714.6	744.3	765.6	787.3	833.0	854.2	856.6	832.1	804.2	777.4	756.6
56°	675.9	704.7	723.1	744.3	791.0	813.7	816.0	792.0	764.6	735.8	717.9
56.5°	637.3	664.6	681.1	704.7	750.0	772.6	775.0	750.9	723.1	695.3	678.3
57°	597.6	624.5	639.1	663.2	709.4	731.6	734.4	711.3	684.4	654.2	639.1
57.5°	559.9	584.4	598.6	622.6	669.3	690.1	693.4	671.2	644.3	615.1	600.0
58°	522.6	545.3	558.0	583.5	629.2	649.1	652.4	631.6	606.1	575.0	561.3
58.5°	486.3	506.1	517.9	544.8	590.1	608.5	611.8	592.9	568.4	536.8	523.6
59°	450.5	467.9	480.2	507.1	551.4	567.9	571.2	555.2	530.7	499.1	486.8
59.5°	414.6	429.2	442.9	469.8	513.7	528.8	530.2	517.0	492.9	462.7	450.9
60°	381.1	392.9	407.5	433.0	476.4	490.1	490.6	479.7	458.0	428.8	415.6
60.5°	347.2	357.1	371.7	397.2	441.5	453.3	454.2	444.3	423.1	394.8	380.2
61°	314.1	322.6	337.7	362.7	406.6	417.0	417.5	409.0	388.7	360.8	345.3
61.5°	282.1	289.6	305.7	329.7	371.7	380.2	380.7	373.6	353.8	326.9	309.9
62°	251.4	258.5	273.6	297.2	336.8	343.9	343.9	338.2	318.9	295.8	279.2
62.5°	222.2	228.8	243.9	266.0	301.9	307.5	307.1	302.8	286.8	265.1	248.6
63°	194.3	200.0	214.6	237.3	268.9	273.6	273.1	269.8	256.1	236.3	219.8
63.5°	167.0	173.6	187.7	208.5	237.7	242.0	241.5	238.7	226.9	208.5	192.9
64°	144.3	152.4	161.8	181.6	208.0	211.3	211.3	208.5	197.2	182.1	167.9
64.5°	121.7	131.6	141.0	158.0	179.7	182.5	182.1	179.2	168.4	157.5	143.9
65°	99.1	110.4	119.8	135.8	152.8	155.2	155.2	152.4	140.1	133.5	122.2
65.5°	76.9	89.6	98.6	113.2	126.9	130.2	130.2	126.4	113.2	111.3	101.9
66°	54.2	68.4	77.8	91.0	103.3	106.1	106.1	102.4	88.2	90.6	83.0





TEST NUMBER: P776662

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	17.5	29.2	34.0	37.3	53.8	55.7	55.7	52.8	39.6	47.6	43.9
68°	13.2	20.3	23.6	25.0	39.6	41.0	41.0	39.2	23.6	35.8	30.7
68.5°	9.4	16.5	14.6	15.6	25.5	26.4	26.4	25.0	7.5	23.6	17.9
69°	5.2	12.7	11.3	11.8	11.8	12.3	11.8	11.8	2.4	11.3	10.4
69.5°	1.4	9.0	8.0	8.5	5.7	5.7	5.7	5.7	1.4	5.7	5.2
70°	1.4	5.2	4.7	4.7	2.4	2.4	2.4	2.4	1.4	2.4	2.4
70.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
71°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
71.5°	0.9	0.9	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	0.9
72°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9	0.9
75°	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
80.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
81°	0.0	0.0	0.0	0.0	0.0	0.5	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: P776662  
CATALOG NUMBER: HCDJBL4050CSD-HCD61TRMB-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: P776662

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2302.3	2302.3	2302.3	2302.3	2302.3	2302.3
0.5°	2301.9	2301.4	2301.4	2301.9	2301.4	2300.9
1°	2300.9	2300.0	2300.0	2300.5	2300.5	2300.0
1.5°	2300.0	2298.6	2298.1	2299.0	2299.0	2299.0
2°	2298.6	2296.7	2296.2	2297.2	2297.2	2297.6
2.5°	2297.2	2294.3	2294.3	2294.8	2295.3	2296.2
3°	2295.3	2292.4	2292.0	2292.9	2293.4	2294.3
3.5°	2293.4	2290.1	2289.6	2290.6	2291.5	2292.9
4°	2291.0	2287.7	2286.8	2287.7	2289.1	2290.6
4.5°	2288.7	2284.9	2283.9	2284.9	2286.3	2288.7
5°	2286.3	2282.1	2281.1	2282.1	2283.5	2286.3
5.5°	2283.5	2278.8	2277.8	2278.8	2280.6	2283.9
6°	2280.6	2275.5	2274.5	2275.5	2277.3	2280.6
6.5°	2277.3	2272.2	2270.7	2271.7	2274.5	2277.8
7°	2274.0	2268.4	2267.0	2268.4	2270.7	2274.5
7.5°	2270.7	2264.1	2263.2	2264.1	2267.0	2271.2
8°	2267.0	2260.4	2258.5	2259.9	2263.2	2267.9
8.5°	2262.7	2256.1	2254.2	2255.6	2258.9	2263.7
9°	2258.9	2251.4	2249.5	2250.9	2254.2	2259.9
9.5°	2254.2	2247.2	2245.3	2246.2	2250.0	2255.6
10°	2250.0	2242.0	2240.1	2241.5	2245.3	2250.9
10.5°	2245.3	2236.8	2234.9	2236.3	2240.1	2246.7
11°	2240.6	2231.6	2229.2	2231.1	2234.9	2241.5
11.5°	2235.4	2226.4	2223.6	2225.0	2229.7	2236.8
12°	2230.2	2220.3	2217.9	2219.3	2224.0	2231.1
12.5°	2224.5	2214.6	2211.8	2213.2	2218.4	2225.9
13°	2218.9	2208.5	2205.6	2207.1	2212.3	2219.8
13.5°	2212.7	2202.3	2199.0	2200.5	2205.6	2214.1
14°	2207.1	2195.7	2192.4	2193.9	2199.5	2208.0
14.5°	2200.5	2188.7	2185.8	2187.3	2192.4	2201.4
15°	2193.9	2182.1	2178.3	2180.2	2185.8	2194.8
15.5°	2187.3	2174.5	2170.7	2172.6	2178.3	2187.7
16°	2179.7	2167.4	2163.2	2165.1	2171.2	2181.1
16.5°	2173.1	2159.4	2155.6	2157.5	2163.7	2173.6
17°	2165.6	2151.4	2147.6	2149.0	2155.6	2166.0
17.5°	2157.5	2143.4	2139.1	2141.0	2147.6	2158.5
18°	2150.0	2134.9	2130.6	2132.5	2139.1	2150.5
18.5°	2141.5	2126.4	2121.7	2123.6	2130.6	2142.0
19°	2133.0	2117.9	2112.7	2114.6	2121.7	2133.5
19.5°	2124.5	2108.9	2103.3	2105.2	2113.2	2125.0
20°	2115.6	2099.5	2093.9	2095.7	2103.8	2116.0
20.5°	2106.6	2089.6	2083.9	2085.8	2093.9	2106.6
21°	2097.2	2079.7	2074.0	2075.5	2083.9	2097.6

TEST NUMBER: P776662

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2067.0	2048.6	2042.0	2043.9	2052.8	2067.4
23°	2057.1	2037.7	2030.6	2032.5	2042.0	2057.1
23.5°	2046.2	2026.9	2019.8	2021.2	2031.1	2046.2
24°	2035.4	2015.6	2008.0	2009.4	2019.3	2035.4
24.5°	2024.0	2003.3	1996.2	1997.6	2007.5	2023.6
25°	2012.7	1991.5	1983.9	1985.4	1995.7	2012.3
25.5°	2000.9	1979.7	1971.2	1973.1	1983.5	2000.5
26°	1989.1	1967.0	1958.5	1960.4	1971.2	1988.7
26.5°	1976.4	1953.8	1945.3	1947.2	1958.0	1975.9
27°	1963.7	1940.6	1932.5	1933.9	1945.3	1963.7
27.5°	1951.4	1927.8	1919.3	1920.3	1932.1	1950.5
28°	1938.2	1914.1	1905.2	1906.6	1918.4	1937.3
28.5°	1924.5	1900.0	1891.0	1892.4	1904.2	1923.6
29°	1911.3	1886.3	1876.9	1878.8	1890.6	1909.9
29.5°	1897.6	1871.7	1862.3	1863.7	1876.4	1896.2
30°	1883.0	1857.5	1847.6	1849.0	1861.3	1881.6
30.5°	1868.9	1842.4	1832.1	1833.5	1846.7	1867.0
31°	1854.2	1826.9	1817.0	1818.4	1831.1	1852.3
31.5°	1839.1	1811.8	1800.9	1802.3	1815.6	1836.8
32°	1823.6	1796.2	1785.4	1786.8	1800.0	1821.7
32.5°	1808.5	1780.2	1769.3	1770.3	1784.4	1805.6
33°	1792.4	1764.1	1752.8	1754.2	1767.9	1790.1
33.5°	1776.9	1748.1	1736.3	1738.2	1751.4	1774.0
34°	1760.4	1731.6	1719.8	1720.7	1734.9	1757.5
34.5°	1744.3	1714.1	1702.3	1703.8	1717.9	1740.6
35°	1726.9	1697.2	1684.9	1686.8	1700.5	1723.6
35.5°	1710.4	1679.7	1667.9	1669.3	1683.0	1706.6
36°	1693.4	1662.7	1650.5	1651.9	1666.0	1688.7
36.5°	1676.4	1644.8	1633.0	1634.0	1648.6	1671.7
37°	1658.5	1626.9	1615.1	1616.0	1630.2	1653.3
37.5°	1640.6	1609.0	1596.2	1598.1	1612.3	1634.9
38°	1622.6	1590.6	1578.3	1579.7	1593.4	1616.0
38.5°	1603.8	1572.2	1559.9	1561.3	1575.0	1598.1
39°	1585.8	1553.3	1541.5	1542.4	1556.6	1579.7
39.5°	1567.0	1534.9	1522.6	1524.0	1537.7	1560.4
40°	1548.1	1515.1	1503.8	1504.7	1517.9	1541.0
40.5°	1529.2	1496.2	1484.4	1485.8	1498.6	1521.7
41°	1509.4	1476.4	1465.1	1466.5	1479.2	1501.9
41.5°	1490.1	1456.6	1444.8	1446.7	1459.4	1481.6
42°	1470.3	1436.8	1425.5	1426.9	1439.6	1461.8
42.5°	1450.5	1416.5	1405.7	1406.6	1419.3	1441.5
43°	1430.2	1395.7	1384.4	1386.3	1398.1	1420.3
43.5°	1409.0	1374.5	1363.7	1365.1	1376.9	1399.5

TEST NUMBER: P776662

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1344.8	1309.9	1300.0	1300.9	1312.3	1334.9
45.5°	1323.1	1288.7	1278.3	1279.7	1290.6	1313.2
46°	1301.9	1267.4	1257.1	1258.5	1269.8	1292.0
46.5°	1280.2	1247.2	1236.8	1237.7	1249.0	1271.2
47°	1259.9	1226.9	1217.0	1217.9	1228.3	1250.9
47.5°	1239.6	1206.6	1196.7	1198.1	1208.0	1230.7
48°	1219.8	1186.8	1176.4	1178.3	1188.2	1210.4
48.5°	1199.5	1166.5	1156.6	1157.5	1167.9	1190.6
49°	1177.8	1144.3	1134.4	1135.8	1146.7	1168.9
49.5°	1154.2	1120.3	1111.3	1112.7	1123.1	1145.3
50°	1128.3	1092.4	1084.0	1086.8	1097.6	1118.4
50.5°	1097.6	1061.3	1053.8	1057.1	1067.0	1088.7
51°	1065.1	1027.8	1020.7	1023.6	1034.9	1056.1
51.5°	1030.7	993.9	985.8	988.2	1000.9	1021.2
52°	996.2	957.5	949.5	951.9	964.1	984.0
52.5°	959.9	920.7	912.7	914.1	925.9	947.6
53°	923.6	882.5	873.6	875.0	887.7	909.9
53.5°	885.8	845.3	834.4	836.3	849.1	871.7
54°	849.5	807.5	795.3	796.7	809.4	832.5
54.5°	810.8	769.3	757.1	757.5	770.7	793.9
55°	773.6	731.1	717.4	717.9	731.1	754.2
55.5°	734.4	694.3	678.8	677.8	692.0	714.6
56°	697.2	657.1	640.1	637.7	653.8	675.9
56.5°	658.5	620.3	602.4	599.5	616.0	637.3
57°	620.8	582.5	564.6	560.8	577.8	597.6
57.5°	583.5	546.7	527.4	523.6	540.6	559.9
58°	546.7	510.8	491.5	487.7	504.2	522.6
58.5°	509.9	475.9	456.1	451.4	467.4	486.3
59°	473.6	441.0	421.7	417.0	433.5	450.5
59.5°	439.1	406.6	388.7	383.5	399.5	414.6
60°	404.2	373.6	355.2	351.4	366.0	381.1
60.5°	369.8	341.0	324.1	320.3	334.0	347.2
61°	335.4	309.0	293.9	290.6	302.8	314.1
61.5°	303.8	279.2	265.6	262.3	272.6	282.1
62°	272.6	249.5	238.2	236.3	243.9	251.4
62.5°	242.5	220.8	212.3	210.4	216.0	222.2
63°	213.2	194.3	187.7	186.3	189.1	194.3
63.5°	185.8	168.9	163.7	162.7	164.1	167.0
64°	159.9	148.1	144.3	143.4	143.9	144.3
64.5°	135.8	127.4	125.0	124.5	123.6	121.7
65°	113.7	107.1	105.7	105.2	103.3	99.1
65.5°	93.4	86.3	86.3	86.3	83.0	76.9
66°	74.1	66.0	69.8	70.8	66.0	54.2



TEST NUMBER: P776662  
 CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	38.7	27.4	31.1	32.1	27.8	17.5
68°	26.9	18.9	21.7	22.2	19.3	13.2
68.5°	15.6	14.6	13.7	14.2	14.6	9.4
69°	9.4	10.4	10.4	10.8	10.4	5.2
69.5°	4.7	5.7	7.5	7.5	5.7	1.4
70°	2.4	1.4	4.2	4.2	1.4	1.4
70.5°	1.4	1.4	1.4	1.4	1.4	1.4
71°	0.9	0.9	0.9	0.9	0.9	0.9
71.5°	0.9	0.9	0.9	0.9	0.9	0.9
72°	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.9	0.9
73.5°	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.9	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	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: P776662  
CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-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

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



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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°	2087.3	2107.5	2128.3	2146.2	2161.3	2165.1	2163.2	2155.2	2141.5	2122.6	2103.8
22°	2077.8	2098.1	2119.3	2137.7	2152.8	2157.1	2154.7	2146.2	2133.0	2113.7	2094.3



44°	1377.8	1415.1	1449.0	1479.7	1507.1	1512.7	1511.8	1500.0	1477.8	1449.0	1418.4
44.5°	1356.1	1393.9	1427.8	1457.5	1485.8	1492.4	1489.6	1478.8	1456.1	1427.3	1396.7



66.5°	39.2	53.3	61.3	68.9	82.1	84.9	84.9	80.7	72.2	72.2	69.8
67°	26.9	40.1	46.7	51.9	67.9	70.3	70.3	66.5	56.1	59.9	57.1



89°	0.0	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	0.0



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21.5°	2087.3	2069.8	2063.7	2065.1	2074.0	2087.3
22°	2077.3	2059.4	2053.3	2054.7	2063.7	2077.8



44°	1387.7	1352.8	1342.4	1343.4	1355.7	1377.8
44.5°	1366.5	1331.6	1321.2	1322.2	1334.0	1356.1



66.5°	62.3	50.5	55.7	55.7	51.4	39.2
67°	50.5	37.7	42.5	42.9	38.7	26.9

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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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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)