

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: P776745

Luminaire Tested: HCDJBS4050CSD-HCD81TRC-5000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776745  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B042-HCD81TRC)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD81TRC-5000lm-2700K  
Description: 8 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

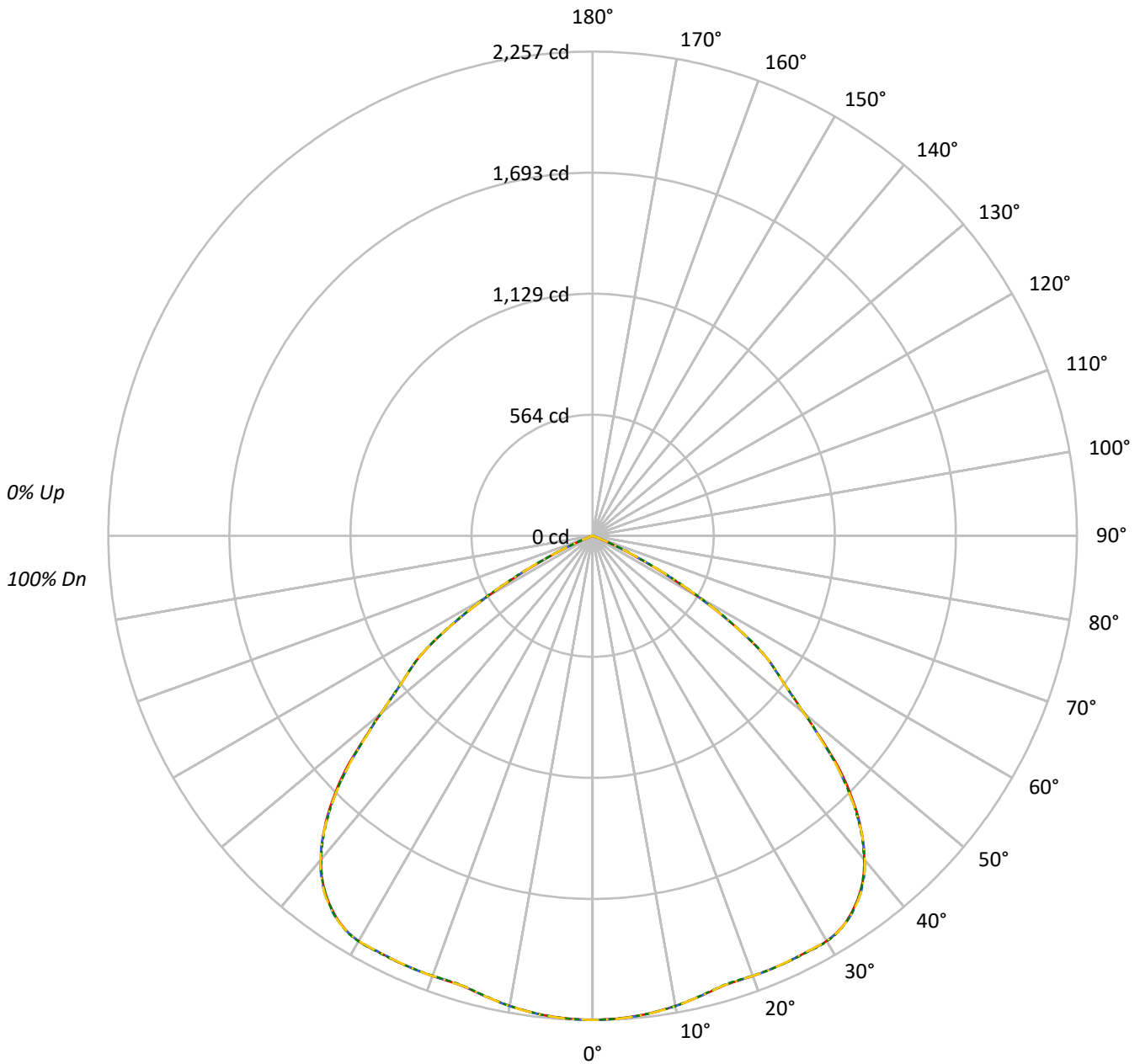
Lumens per Lamp: N/A  
Luminaire Lumens: 5523.3 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.44 / 1.44 / 1.44  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

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



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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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	105	102	109	106	103	100	102	99	97	98	96	94	94	93	91	89								
2	103	97	91	87	101	95	90	86	91	87	84	88	85	82	85	83	80	78								
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68								
4	88	78	70	64	86	77	69	64	74	68	63	72	67	62	70	65	62	60								
5	81	70	62	56	80	69	62	56	67	60	55	65	59	55	63	58	54	52								
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46								
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41								
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37								
9	61	48	41	35	60	48	40	35	47	40	35	46	39	35	45	39	35	33								
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	41	36	32	30								

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

	0°	90°	180°	270°
0°	68892	68892	68892	68892
5°	68903	68919	68903	68919
10°	68996	68981	68996	68981
15°	69264	69191	69264	69191
20°	70944	70902	70944	70902
25°	73575	73591	73575	73591
30°	76902	76965	76902	76965
35°	79058	79111	79058	79111
40°	78529	78438	78529	78438
45°	73365	72972	73365	72972
50°	61142	61252	61142	61252
55°	52515	52632	52515	52632
60°	34560	35507	34560	35507
65°	12281	14058	12281	14058
70°	366	687	366	687
75°	165	212	165	212
80°	88	158	88	158
85°	0	175	0	175

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 73365 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.9	3.9
10°-20°	621.7	11.3
20°-30°	1010.6	18.3
30°-40°	1322.1	23.9
40°-50°	1284.4	23.3
50°-60°	853.3	15.4
60°-70°	214.9	3.9
70°-80°	1.9	0.0
80°-90°	0.3	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°	1846.3	33.4
0°-40°	3168.4	57.4
0°-60°	5306.2	96.1
0°-90°	5523.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5523.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2256	2256	2256	2256	2256	
5°	2248	2249	2248	2249	2248	214
15°	2191	2189	2191	2189	2191	622
25°	2184	2185	2184	2185	2184	1011
35°	2121	2123	2121	2123	2121	1321
45°	1699	1690	1699	1690	1699	1288
55°	987	989	987	989	987	851
65°	170	195	170	195	170	203
75°	1	2	1	2	1	2
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°	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5
0.5°	2256.1	2256.1	2257.0	2257.5	2256.1	2257.5	2257.0	2256.1	2256.1	2256.1	2257.0
1°	2255.6	2256.1	2256.5	2257.0	2256.1	2257.0	2256.5	2256.1	2255.6	2256.1	2256.5
1.5°	2255.2	2255.6	2256.1	2256.5	2255.6	2256.5	2256.1	2255.6	2255.2	2255.6	2256.1
2°	2254.7	2254.7	2255.6	2256.1	2255.2	2256.1	2255.6	2254.7	2254.7	2254.7	2255.6
2.5°	2253.8	2254.3	2254.7	2255.2	2254.3	2255.2	2254.7	2254.3	2253.8	2254.3	2254.7
3°	2253.4	2253.4	2254.3	2254.7	2253.4	2254.7	2254.3	2253.4	2253.4	2253.4	2254.3
3.5°	2252.4	2252.4	2253.4	2253.8	2252.4	2253.4	2253.4	2252.4	2252.4	2252.4	2253.4
4°	2251.1	2251.5	2252.0	2252.4	2251.1	2252.4	2252.0	2251.5	2251.1	2251.5	2252.0
4.5°	2249.7	2250.2	2250.6	2251.1	2250.2	2251.1	2250.6	2250.2	2249.7	2250.2	2250.6
5°	2248.3	2248.8	2249.3	2249.7	2248.8	2249.7	2249.3	2248.8	2248.3	2248.8	2249.3
5.5°	2247.0	2247.4	2247.9	2248.3	2247.4	2248.3	2247.9	2247.4	2247.0	2247.4	2247.9
6°	2245.2	2245.6	2246.1	2246.5	2245.6	2246.5	2246.1	2245.6	2245.2	2245.6	2246.1
6.5°	2243.3	2243.8	2244.2	2244.7	2243.3	2244.7	2244.2	2243.8	2243.3	2243.8	2244.2
7°	2241.5	2241.5	2242.0	2242.4	2241.1	2242.4	2242.0	2241.5	2241.5	2241.5	2242.0
7.5°	2239.2	2239.2	2239.7	2239.7	2238.8	2239.7	2239.7	2239.2	2239.2	2239.2	2239.7
8°	2236.5	2237.0	2237.0	2237.4	2236.5	2237.4	2237.0	2237.0	2236.5	2237.0	2237.0
8.5°	2233.8	2234.2	2234.7	2234.7	2233.8	2234.7	2234.7	2234.2	2233.8	2234.2	2234.7
9°	2231.5	2231.5	2231.9	2231.9	2231.0	2231.9	2231.9	2231.5	2231.5	2231.5	2231.9
9.5°	2228.3	2228.8	2228.8	2229.2	2228.3	2229.2	2228.8	2228.8	2228.3	2228.8	2228.8
10°	2225.6	2225.6	2226.0	2226.0	2225.1	2226.0	2226.0	2225.6	2225.6	2225.6	2226.0
10.5°	2222.4	2222.4	2222.8	2222.8	2221.9	2222.8	2222.8	2222.4	2222.4	2222.4	2222.8
11°	2219.2	2219.2	2219.6	2219.6	2218.3	2219.6	2219.6	2219.2	2219.2	2219.2	2219.6
11.5°	2215.5	2215.5	2216.0	2216.0	2215.1	2216.0	2216.0	2215.5	2215.5	2215.5	2216.0
12°	2212.3	2212.3	2212.3	2212.3	2211.4	2212.3	2212.3	2212.3	2212.3	2212.3	2212.3
12.5°	2208.7	2208.7	2208.7	2208.7	2207.8	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
13°	2205.5	2205.1	2205.5	2205.1	2204.1	2205.1	2205.5	2205.1	2205.5	2205.1	2205.5
13.5°	2201.9	2201.4	2201.4	2201.4	2200.0	2201.4	2201.4	2201.4	2201.9	2201.4	2201.4
14°	2198.2	2198.2	2197.8	2197.8	2196.4	2197.8	2197.8	2198.2	2198.2	2198.2	2197.8
14.5°	2194.6	2194.6	2194.1	2194.1	2192.8	2194.1	2194.1	2194.6	2194.6	2194.6	2194.1
15°	2191.4	2190.9	2190.5	2190.5	2189.1	2190.5	2190.5	2190.9	2191.4	2190.9	2190.5
15.5°	2188.2	2187.7	2187.3	2187.3	2185.9	2187.3	2187.3	2187.7	2188.2	2187.7	2187.3
16°	2185.9	2185.5	2185.0	2185.0	2183.2	2184.1	2185.0	2185.5	2185.9	2185.5	2185.0
16.5°	2184.1	2183.6	2183.2	2183.2	2181.4	2181.8	2183.2	2183.6	2184.1	2183.6	2183.2
17°	2182.7	2182.7	2182.3	2182.3	2180.0	2180.9	2182.3	2182.7	2182.7	2182.7	2182.3
17.5°	2182.3	2182.3	2181.4	2181.4	2180.0	2180.4	2181.4	2182.3	2182.3	2182.3	2181.4
18°	2182.3	2182.3	2181.4	2181.4	2180.0	2180.9	2181.4	2182.3	2182.3	2182.3	2181.4
18.5°	2182.3	2182.3	2181.8	2181.8	2180.0	2180.9	2181.8	2182.3	2182.3	2182.3	2181.8
19°	2182.7	2182.7	2182.3	2182.3	2180.9	2181.8	2182.3	2182.7	2182.7	2182.7	2182.3
19.5°	2183.2	2183.2	2182.7	2182.7	2181.4	2182.3	2182.7	2183.2	2183.2	2183.2	2182.7
20°	2183.6	2183.6	2183.2	2183.2	2182.3	2182.7	2183.2	2183.6	2183.6	2183.6	2183.2
20.5°	2184.1	2183.6	2183.6	2183.6	2182.7	2183.6	2183.6	2183.6	2184.1	2183.6	2183.6
21°	2184.1	2184.1	2184.1	2184.1	2183.6	2184.1	2184.1	2184.1	2184.1	2184.1	2184.1



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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°	2185.0	2184.6	2184.6	2185.0	2185.0	2185.0	2184.6	2184.6	2185.0	2184.6	2184.6
23°	2185.0	2184.6	2184.6	2185.5	2185.0	2185.5	2184.6	2184.6	2185.0	2184.6	2184.6
23.5°	2185.0	2184.6	2184.1	2185.0	2185.0	2185.0	2184.1	2184.6	2185.0	2184.6	2184.1
24°	2184.6	2184.1	2183.6	2185.0	2185.0	2185.0	2183.6	2184.1	2184.6	2184.1	2183.6
24.5°	2184.6	2183.6	2183.6	2185.0	2185.0	2185.0	2183.6	2183.6	2184.6	2183.6	2183.6
25°	2184.1	2183.2	2183.2	2184.6	2184.6	2184.6	2183.2	2183.2	2184.1	2183.2	2183.2
25.5°	2183.6	2182.7	2182.7	2184.6	2184.6	2184.6	2182.7	2182.7	2183.6	2182.7	2182.7
26°	2182.7	2182.3	2181.8	2184.1	2184.1	2184.1	2181.8	2182.3	2182.7	2182.3	2181.8
26.5°	2182.3	2181.8	2181.4	2183.6	2183.6	2183.6	2181.4	2181.8	2182.3	2181.8	2181.4
27°	2182.3	2181.4	2180.9	2183.2	2183.6	2183.2	2180.9	2181.4	2182.3	2181.4	2180.9
27.5°	2182.3	2181.8	2180.9	2183.2	2183.6	2183.2	2180.9	2181.8	2182.3	2181.8	2180.9
28°	2182.7	2181.8	2181.4	2183.6	2184.1	2183.6	2181.4	2181.8	2182.7	2181.8	2181.4
28.5°	2183.2	2182.3	2181.4	2184.1	2184.6	2184.1	2181.4	2182.3	2183.2	2182.3	2181.4
29°	2183.2	2182.3	2181.4	2184.6	2184.6	2184.6	2181.4	2182.3	2183.2	2182.3	2181.4
29.5°	2182.7	2181.8	2181.4	2184.1	2184.1	2184.1	2181.4	2181.8	2182.7	2181.8	2181.4
30°	2181.4	2180.9	2180.4	2183.2	2183.2	2183.2	2180.4	2180.9	2181.4	2180.9	2180.4
30.5°	2179.5	2179.1	2179.1	2181.8	2181.4	2181.8	2179.1	2179.1	2179.5	2179.1	2179.1
31°	2176.8	2176.3	2176.3	2179.1	2178.6	2179.1	2176.3	2176.3	2176.8	2176.3	2176.3
31.5°	2173.2	2173.2	2173.6	2175.9	2175.0	2175.9	2173.6	2173.2	2173.2	2173.2	2173.6
32°	2168.1	2168.6	2169.1	2171.3	2170.4	2171.3	2169.1	2168.6	2168.1	2168.6	2169.1
32.5°	2162.7	2163.1	2164.0	2165.9	2165.0	2165.9	2164.0	2163.1	2162.7	2163.1	2164.0
33°	2156.3	2156.8	2158.1	2159.5	2158.1	2159.5	2158.1	2156.8	2156.3	2156.8	2158.1
33.5°	2149.0	2149.5	2151.3	2152.2	2150.8	2152.2	2151.3	2149.5	2149.0	2149.5	2151.3
34°	2140.3	2141.7	2143.5	2144.0	2142.2	2144.0	2143.5	2141.7	2140.3	2141.7	2143.5
34.5°	2131.2	2132.6	2134.9	2134.9	2133.1	2134.9	2134.9	2132.6	2131.2	2132.6	2134.9
35°	2121.2	2122.6	2125.3	2124.9	2122.6	2124.9	2125.3	2122.6	2121.2	2122.6	2125.3
35.5°	2110.7	2112.6	2114.8	2114.4	2112.1	2114.4	2114.8	2112.6	2110.7	2112.6	2114.8
36°	2099.3	2101.2	2103.9	2103.0	2100.2	2103.0	2103.9	2101.2	2099.3	2101.2	2103.9
36.5°	2087.0	2089.3	2092.0	2090.7	2087.9	2090.7	2092.0	2089.3	2087.0	2089.3	2092.0
37°	2073.8	2076.1	2078.8	2077.5	2074.3	2077.5	2078.8	2076.1	2073.8	2076.1	2078.8
37.5°	2059.7	2062.4	2064.3	2062.9	2059.7	2062.9	2064.3	2062.4	2059.7	2062.4	2064.3
38°	2044.2	2046.9	2049.2	2047.4	2044.2	2047.4	2049.2	2046.9	2044.2	2046.9	2049.2
38.5°	2027.3	2030.5	2032.8	2030.5	2026.9	2030.5	2032.8	2030.5	2027.3	2030.5	2032.8
39°	2009.6	2013.2	2014.6	2012.3	2008.7	2012.3	2014.6	2013.2	2009.6	2013.2	2014.6
39.5°	1990.9	1994.1	1995.0	1992.3	1988.6	1992.3	1995.0	1994.1	1990.9	1994.1	1995.0
40°	1970.4	1973.1	1974.0	1971.3	1968.1	1971.3	1974.0	1973.1	1970.4	1973.1	1974.0
40.5°	1949.0	1951.2	1951.7	1949.0	1945.3	1949.0	1951.7	1951.2	1949.0	1951.2	1951.7
41°	1926.2	1928.0	1927.5	1924.8	1922.1	1924.8	1927.5	1928.0	1926.2	1928.0	1927.5
41.5°	1902.0	1903.4	1902.5	1899.7	1897.5	1899.7	1902.5	1903.4	1902.0	1903.4	1902.5
42°	1877.0	1877.4	1875.6	1873.3	1872.0	1873.3	1875.6	1877.4	1877.0	1877.4	1875.6
42.5°	1851.0	1850.5	1847.8	1846.0	1844.6	1846.0	1847.8	1850.5	1851.0	1850.5	1847.8
43°	1823.2	1821.8	1818.6	1817.3	1816.4	1817.3	1818.6	1821.8	1823.2	1821.8	1818.6
43.5°	1794.0	1792.2	1787.6	1787.2	1786.7	1787.2	1787.6	1792.2	1794.0	1792.2	1787.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1699.2	1695.1	1688.8	1688.8	1690.1	1688.8	1688.8	1695.1	1699.2	1695.1	1688.8
45.5°	1664.6	1660.1	1652.8	1653.7	1655.0	1653.7	1652.8	1660.1	1664.6	1660.1	1652.8
46°	1628.2	1623.6	1616.3	1617.2	1619.5	1617.2	1616.3	1623.6	1628.2	1623.6	1616.3
46.5°	1589.9	1585.8	1578.5	1579.4	1581.7	1579.4	1578.5	1585.8	1589.9	1585.8	1578.5
47°	1549.8	1545.7	1538.8	1539.8	1541.6	1539.8	1538.8	1545.7	1549.8	1545.7	1538.8
47.5°	1505.1	1501.0	1494.2	1495.6	1497.4	1495.6	1494.2	1501.0	1505.1	1501.0	1494.2
48°	1457.3	1453.6	1448.2	1450.4	1452.3	1450.4	1448.2	1453.6	1457.3	1453.6	1448.2
48.5°	1412.6	1410.8	1405.8	1407.6	1409.9	1407.6	1405.8	1410.8	1412.6	1410.8	1405.8
49°	1370.7	1369.8	1367.1	1368.4	1369.8	1368.4	1367.1	1369.8	1370.7	1369.8	1367.1
49.5°	1329.2	1328.8	1327.4	1328.3	1329.2	1328.3	1327.4	1328.8	1329.2	1328.8	1327.4
50°	1287.3	1286.9	1286.9	1288.2	1289.6	1288.2	1286.9	1286.9	1287.3	1286.9	1286.9
50.5°	1248.1	1248.6	1248.1	1249.0	1249.9	1249.0	1248.1	1248.6	1248.1	1248.6	1248.1
51°	1212.6	1212.6	1212.1	1213.0	1212.1	1213.0	1212.1	1212.6	1212.6	1212.6	1212.1
51.5°	1178.9	1178.4	1177.9	1178.9	1179.3	1178.9	1177.9	1178.4	1178.9	1178.4	1177.9
52°	1146.5	1146.5	1146.5	1147.9	1149.2	1147.9	1146.5	1146.5	1146.5	1146.5	1146.5
52.5°	1116.9	1117.3	1116.9	1118.7	1120.1	1118.7	1116.9	1117.3	1116.9	1117.3	1116.9
53°	1090.5	1090.0	1090.0	1092.3	1093.2	1092.3	1090.0	1090.0	1090.5	1090.0	1090.0
53.5°	1065.4	1065.4	1065.4	1067.2	1068.1	1067.2	1065.4	1065.4	1065.4	1065.4	1065.4
54°	1041.2	1040.8	1040.8	1042.6	1042.6	1042.6	1040.8	1040.8	1041.2	1040.8	1040.8
54.5°	1015.3	1015.3	1015.3	1016.6	1017.1	1016.6	1015.3	1015.3	1015.3	1015.3	1015.3
55°	986.6	986.6	986.6	988.8	988.8	988.8	986.6	986.6	986.6	986.6	986.6
55.5°	953.3	953.3	953.7	956.9	956.0	956.9	953.7	953.3	953.3	953.3	953.7
56°	915.5	916.4	917.7	920.5	920.0	920.5	917.7	916.4	915.5	916.4	917.7
56.5°	876.3	876.7	878.6	881.3	881.3	881.3	878.6	876.7	876.3	876.7	878.6
57°	834.8	835.3	837.5	840.3	839.4	840.3	837.5	835.3	834.8	835.3	837.5
57.5°	791.5	792.4	794.3	797.9	797.9	797.9	794.3	792.4	791.5	792.4	794.3
58°	748.2	748.2	751.0	755.1	756.0	755.1	751.0	748.2	748.2	748.2	751.0
58.5°	702.7	704.0	706.3	711.3	713.1	711.3	706.3	704.0	702.7	704.0	706.3
59°	657.1	658.9	661.7	666.7	668.9	666.7	661.7	658.9	657.1	658.9	661.7
59.5°	611.1	613.4	616.5	622.9	625.7	622.9	616.5	613.4	611.1	613.4	616.5
60°	566.0	568.7	572.8	578.7	581.5	578.7	572.8	568.7	566.0	568.7	572.8
60.5°	520.8	524.0	529.5	535.9	538.6	535.9	529.5	524.0	520.8	524.0	529.5
61°	476.6	480.7	487.1	493.1	495.3	493.1	487.1	480.7	476.6	480.7	487.1
61.5°	434.7	438.4	446.1	451.6	453.4	451.6	446.1	438.4	434.7	438.4	446.1
62°	392.8	397.4	405.1	410.1	412.4	410.1	405.1	397.4	392.8	397.4	405.1
62.5°	351.8	356.8	365.5	370.0	373.7	370.0	365.5	356.8	351.8	356.8	365.5
63°	311.2	317.2	326.7	331.3	334.9	331.3	326.7	317.2	311.2	317.2	326.7
63.5°	273.4	278.4	288.9	293.9	297.6	293.9	288.9	278.4	273.4	278.4	288.9
64°	237.4	242.9	252.4	257.9	260.7	257.9	252.4	242.9	237.4	242.9	252.4
64.5°	202.8	208.7	217.8	222.8	225.1	222.8	217.8	208.7	202.8	208.7	217.8
65°	170.0	176.3	186.4	191.8	194.6	191.8	186.4	176.3	170.0	176.3	186.4
65.5°	140.8	147.6	155.8	161.8	165.4	161.8	155.8	147.6	140.8	147.6	155.8
66°	112.6	121.7	127.6	133.5	137.2	133.5	127.6	121.7	112.6	121.7	127.6





TEST NUMBER: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	45.1	58.3	63.3	65.6	66.5	65.6	63.3	58.3	45.1	58.3	63.3
68°	27.3	41.9	46.5	49.2	51.5	49.2	46.5	41.9	27.3	41.9	46.5
68.5°	11.8	27.8	30.5	33.3	37.8	33.3	30.5	27.8	11.8	27.8	30.5
69°	7.3	16.9	20.5	21.9	27.3	21.9	20.5	16.9	7.3	16.9	20.5
69.5°	5.0	10.0	13.7	12.8	17.3	12.8	13.7	10.0	5.0	10.0	13.7
70°	4.1	5.9	7.3	6.8	7.7	6.8	7.3	5.9	4.1	5.9	7.3
70.5°	2.7	3.6	4.6	4.6	3.6	4.6	4.6	3.6	2.7	3.6	4.6
71°	2.3	2.7	3.6	3.6	3.2	3.6	3.6	2.7	2.3	2.7	3.6
71.5°	2.3	2.3	2.7	2.7	2.7	2.7	2.7	2.3	2.3	2.3	2.7
72°	2.3	2.3	2.3	2.7	2.7	2.7	2.3	2.3	2.3	2.3	2.3
72.5°	1.8	2.3	2.3	2.3	2.7	2.3	2.3	2.3	1.8	2.3	2.3
73°	1.8	1.8	2.3	2.3	2.3	2.3	2.3	1.8	1.8	1.8	2.3
73.5°	1.8	1.8	1.8	2.3	2.3	2.3	1.8	1.8	1.8	1.8	1.8
74°	1.4	1.8	1.8	1.8	2.3	1.8	1.8	1.8	1.4	1.8	1.8
74.5°	1.4	1.4	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.4	1.8
75°	1.4	1.4	1.4	1.8	1.8	1.8	1.4	1.4	1.4	1.4	1.4
75.5°	1.4	1.4	1.4	1.8	1.8	1.8	1.4	1.4	1.4	1.4	1.4
76°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
76.5°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	1.4
77°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9	1.4
77.5°	0.9	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	0.9	0.9
78°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
78.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
79°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
79.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
80°	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
84.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.5	0.5	0.5	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: P776745  
CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-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: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2256.5	2256.5	2256.5	2256.5	2256.5	2256.5
0.5°	2257.5	2256.1	2257.5	2257.0	2256.1	2256.1
1°	2257.0	2256.1	2257.0	2256.5	2256.1	2255.6
1.5°	2256.5	2255.6	2256.5	2256.1	2255.6	2255.2
2°	2256.1	2255.2	2256.1	2255.6	2254.7	2254.7
2.5°	2255.2	2254.3	2255.2	2254.7	2254.3	2253.8
3°	2254.7	2253.4	2254.7	2254.3	2253.4	2253.4
3.5°	2253.4	2252.4	2253.4	2253.4	2252.4	2252.4
4°	2252.4	2251.1	2252.4	2252.0	2251.5	2251.1
4.5°	2251.1	2250.2	2251.1	2250.6	2250.2	2249.7
5°	2249.7	2248.8	2249.7	2249.3	2248.8	2248.3
5.5°	2248.3	2247.4	2248.3	2247.9	2247.4	2247.0
6°	2246.5	2245.6	2246.5	2246.1	2245.6	2245.2
6.5°	2244.7	2243.3	2244.7	2244.2	2243.8	2243.3
7°	2242.4	2241.1	2242.4	2242.0	2241.5	2241.5
7.5°	2239.7	2238.8	2239.7	2239.7	2239.2	2239.2
8°	2237.4	2236.5	2237.4	2237.0	2237.0	2236.5
8.5°	2234.7	2233.8	2234.7	2234.7	2234.2	2233.8
9°	2231.9	2231.0	2231.9	2231.9	2231.5	2231.5
9.5°	2229.2	2228.3	2229.2	2228.8	2228.8	2228.3
10°	2226.0	2225.1	2226.0	2226.0	2225.6	2225.6
10.5°	2222.8	2221.9	2222.8	2222.8	2222.4	2222.4
11°	2219.6	2218.3	2219.6	2219.6	2219.2	2219.2
11.5°	2216.0	2215.1	2216.0	2216.0	2215.5	2215.5
12°	2212.3	2211.4	2212.3	2212.3	2212.3	2212.3
12.5°	2208.7	2207.8	2208.7	2208.7	2208.7	2208.7
13°	2205.1	2204.1	2205.1	2205.5	2205.1	2205.5
13.5°	2201.4	2200.0	2201.4	2201.4	2201.4	2201.9
14°	2197.8	2196.4	2197.8	2197.8	2198.2	2198.2
14.5°	2194.1	2192.8	2194.1	2194.1	2194.6	2194.6
15°	2190.5	2189.1	2190.5	2190.5	2190.9	2191.4
15.5°	2186.8	2185.9	2186.8	2187.3	2187.7	2188.2
16°	2184.1	2183.2	2184.1	2185.0	2185.5	2185.9
16.5°	2181.8	2181.4	2181.8	2183.2	2183.6	2184.1
17°	2180.9	2180.0	2180.9	2182.3	2182.7	2182.7
17.5°	2180.4	2180.0	2180.4	2181.4	2182.3	2182.3
18°	2180.9	2180.0	2180.9	2181.4	2182.3	2182.3
18.5°	2180.9	2180.0	2180.9	2181.8	2182.3	2182.3
19°	2181.8	2180.9	2181.8	2182.3	2182.7	2182.7
19.5°	2182.3	2181.4	2182.3	2182.7	2183.2	2183.2
20°	2182.7	2182.3	2182.7	2183.2	2183.6	2183.6
20.5°	2183.6	2182.7	2183.6	2183.6	2183.6	2184.1
21°	2184.1	2183.6	2184.1	2184.1	2184.1	2184.1



TEST NUMBER: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2185.0	2185.0	2185.0	2184.6	2184.6	2185.0
23°	2185.5	2185.0	2185.5	2184.6	2184.6	2185.0
23.5°	2185.0	2185.0	2185.0	2184.1	2184.6	2185.0
24°	2185.0	2185.0	2185.0	2183.6	2184.1	2184.6
24.5°	2185.0	2185.0	2185.0	2183.6	2183.6	2184.6
25°	2184.6	2184.6	2184.6	2183.2	2183.2	2184.1
25.5°	2184.6	2184.6	2184.6	2182.7	2182.7	2183.6
26°	2184.1	2184.1	2184.1	2181.8	2182.3	2182.7
26.5°	2183.6	2183.6	2183.6	2181.4	2181.8	2182.3
27°	2183.2	2183.6	2183.2	2180.9	2181.4	2182.3
27.5°	2183.2	2183.6	2183.2	2180.9	2181.8	2182.3
28°	2183.6	2184.1	2183.6	2181.4	2181.8	2182.7
28.5°	2184.1	2184.6	2184.1	2181.4	2182.3	2183.2
29°	2184.6	2184.6	2184.6	2181.4	2182.3	2183.2
29.5°	2184.1	2184.1	2184.1	2181.4	2181.8	2182.7
30°	2183.2	2183.2	2183.2	2180.4	2180.9	2181.4
30.5°	2181.8	2181.4	2181.8	2179.1	2179.1	2179.5
31°	2179.1	2178.6	2179.1	2176.3	2176.3	2176.8
31.5°	2175.9	2175.0	2175.9	2173.6	2173.2	2173.2
32°	2171.3	2170.4	2171.3	2169.1	2168.6	2168.1
32.5°	2165.9	2165.0	2165.9	2164.0	2163.1	2162.7
33°	2159.5	2158.1	2159.5	2158.1	2156.8	2156.3
33.5°	2152.2	2150.8	2152.2	2151.3	2149.5	2149.0
34°	2144.0	2142.2	2144.0	2143.5	2141.7	2140.3
34.5°	2134.9	2133.1	2134.9	2134.9	2132.6	2131.2
35°	2124.9	2122.6	2124.9	2125.3	2122.6	2121.2
35.5°	2114.4	2112.1	2114.4	2114.8	2112.6	2110.7
36°	2103.0	2100.2	2103.0	2103.9	2101.2	2099.3
36.5°	2090.7	2087.9	2090.7	2092.0	2089.3	2087.0
37°	2077.5	2074.3	2077.5	2078.8	2076.1	2073.8
37.5°	2062.9	2059.7	2062.9	2064.3	2062.4	2059.7
38°	2047.4	2044.2	2047.4	2049.2	2046.9	2044.2
38.5°	2030.5	2026.9	2030.5	2032.8	2030.5	2027.3
39°	2012.3	2008.7	2012.3	2014.6	2013.2	2009.6
39.5°	1992.3	1988.6	1992.3	1995.0	1994.1	1990.9
40°	1971.3	1968.1	1971.3	1974.0	1973.1	1970.4
40.5°	1949.0	1945.3	1949.0	1951.7	1951.2	1949.0
41°	1924.8	1922.1	1924.8	1927.5	1928.0	1926.2
41.5°	1899.7	1897.5	1899.7	1902.5	1903.4	1902.0
42°	1873.3	1872.0	1873.3	1875.6	1877.4	1877.0
42.5°	1846.0	1844.6	1846.0	1847.8	1850.5	1851.0
43°	1817.3	1816.4	1817.3	1818.6	1821.8	1823.2
43.5°	1787.2	1786.7	1787.2	1787.6	1792.2	1794.0

TEST NUMBER: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1688.8	1690.1	1688.8	1688.8	1695.1	1699.2
45.5°	1653.7	1655.0	1653.7	1652.8	1660.1	1664.6
46°	1617.2	1619.5	1617.2	1616.3	1623.6	1628.2
46.5°	1579.4	1581.7	1579.4	1578.5	1585.8	1589.9
47°	1539.8	1541.6	1539.8	1538.8	1545.7	1549.8
47.5°	1495.6	1497.4	1495.6	1494.2	1501.0	1505.1
48°	1450.4	1452.3	1450.4	1448.2	1453.6	1457.3
48.5°	1407.6	1409.9	1407.6	1405.8	1410.8	1412.6
49°	1368.4	1369.8	1368.4	1367.1	1369.8	1370.7
49.5°	1328.3	1329.2	1328.3	1327.4	1328.8	1329.2
50°	1288.2	1289.6	1288.2	1286.9	1286.9	1287.3
50.5°	1249.0	1249.9	1249.0	1248.1	1248.6	1248.1
51°	1213.0	1212.1	1213.0	1212.1	1212.6	1212.6
51.5°	1178.9	1179.3	1178.9	1177.9	1178.4	1178.9
52°	1147.9	1149.2	1147.9	1146.5	1146.5	1146.5
52.5°	1118.7	1120.1	1118.7	1116.9	1117.3	1116.9
53°	1092.3	1093.2	1092.3	1090.0	1090.0	1090.5
53.5°	1067.2	1068.1	1067.2	1065.4	1065.4	1065.4
54°	1042.6	1042.6	1042.6	1040.8	1040.8	1041.2
54.5°	1016.6	1017.1	1016.6	1015.3	1015.3	1015.3
55°	988.8	988.8	988.8	986.6	986.6	986.6
55.5°	956.9	956.0	956.9	953.7	953.3	953.3
56°	920.5	920.0	920.5	917.7	916.4	915.5
56.5°	881.3	881.3	881.3	878.6	876.7	876.3
57°	840.3	839.4	840.3	837.5	835.3	834.8
57.5°	797.9	797.9	797.9	794.3	792.4	791.5
58°	755.1	756.0	755.1	751.0	748.2	748.2
58.5°	711.3	713.1	711.3	706.3	704.0	702.7
59°	666.7	668.9	666.7	661.7	658.9	657.1
59.5°	622.9	625.7	622.9	616.5	613.4	611.1
60°	578.7	581.5	578.7	572.8	568.7	566.0
60.5°	535.9	538.6	535.9	529.5	524.0	520.8
61°	493.1	495.3	493.1	487.1	480.7	476.6
61.5°	451.6	453.4	451.6	446.1	438.4	434.7
62°	410.1	412.4	410.1	405.1	397.4	392.8
62.5°	370.0	373.7	370.0	365.5	356.8	351.8
63°	331.3	334.9	331.3	326.7	317.2	311.2
63.5°	293.9	297.6	293.9	288.9	278.4	273.4
64°	257.9	260.7	257.9	252.4	242.9	237.4
64.5°	222.8	225.1	222.8	217.8	208.7	202.8
65°	191.8	194.6	191.8	186.4	176.3	170.0
65.5°	161.8	165.4	161.8	155.8	147.6	140.8
66°	133.5	137.2	133.5	127.6	121.7	112.6



TEST NUMBER: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	65.6	66.5	65.6	63.3	58.3	45.1
68°	49.2	51.5	49.2	46.5	41.9	27.3
68.5°	33.3	37.8	33.3	30.5	27.8	11.8
69°	21.9	27.3	21.9	20.5	16.9	7.3
69.5°	12.8	17.3	12.8	13.7	10.0	5.0
70°	6.8	7.7	6.8	7.3	5.9	4.1
70.5°	4.6	3.6	4.6	4.6	3.6	2.7
71°	3.6	3.2	3.6	3.6	2.7	2.3
71.5°	2.7	2.7	2.7	2.7	2.3	2.3
72°	2.7	2.7	2.7	2.3	2.3	2.3
72.5°	2.3	2.7	2.3	2.3	2.3	1.8
73°	2.3	2.3	2.3	2.3	1.8	1.8
73.5°	2.3	2.3	2.3	1.8	1.8	1.8
74°	1.8	2.3	1.8	1.8	1.8	1.4
74.5°	1.8	1.8	1.8	1.8	1.4	1.4
75°	1.8	1.8	1.8	1.4	1.4	1.4
75.5°	1.8	1.8	1.8	1.4	1.4	1.4
76°	1.4	1.4	1.4	1.4	1.4	1.4
76.5°	1.4	1.4	1.4	1.4	0.9	0.9
77°	1.4	1.4	1.4	1.4	0.9	0.9
77.5°	1.4	1.4	1.4	0.9	0.9	0.9
78°	0.9	0.9	0.9	0.9	0.9	0.9
78.5°	0.9	0.9	0.9	0.9	0.9	0.9
79°	0.9	0.9	0.9	0.9	0.9	0.9
79.5°	0.9	0.9	0.9	0.9	0.5	0.5
80°	0.9	0.9	0.9	0.5	0.5	0.5
80.5°	0.9	0.9	0.9	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5
83°	0.5	0.5	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.0	0.0
84.5°	0.5	0.5	0.5	0.0	0.0	0.0
85°	0.5	0.5	0.5	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: P776745

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRC-5000lm-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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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°	2184.6	2184.6	2184.1	2184.6	2184.1	2184.6	2184.1	2184.6	2184.6	2184.6	2184.1
22°	2185.0	2184.6	2184.6	2184.6	2184.6	2184.6	2184.6	2184.6	2185.0	2184.6	2184.6



44°	1763.5	1761.2	1755.8	1755.3	1755.8	1755.3	1755.8	1761.2	1763.5	1761.2	1755.8
44.5°	1732.1	1729.3	1722.9	1722.9	1723.4	1722.9	1722.9	1729.3	1732.1	1729.3	1722.9



66.5°	90.2	97.5	103.9	108.5	109.8	108.5	103.9	97.5	90.2	97.5	103.9
67°	67.4	76.1	81.1	85.7	86.6	85.7	81.1	76.1	67.4	76.1	81.1



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°	2184.6	2184.1	2184.6	2184.1	2184.6	2184.6
22°	2184.6	2184.6	2184.6	2184.6	2184.6	2185.0



44°	1755.3	1755.8	1755.3	1755.8	1761.2	1763.5
44.5°	1722.9	1723.4	1722.9	1722.9	1729.3	1732.1



66.5°	108.5	109.8	108.5	103.9	97.5	90.2
67°	85.7	86.6	85.7	81.1	76.1	67.4

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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)