

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: P776763

Luminaire Tested: HCDJBS4050CSD-HCD81TRMB-5000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776763
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-4000K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

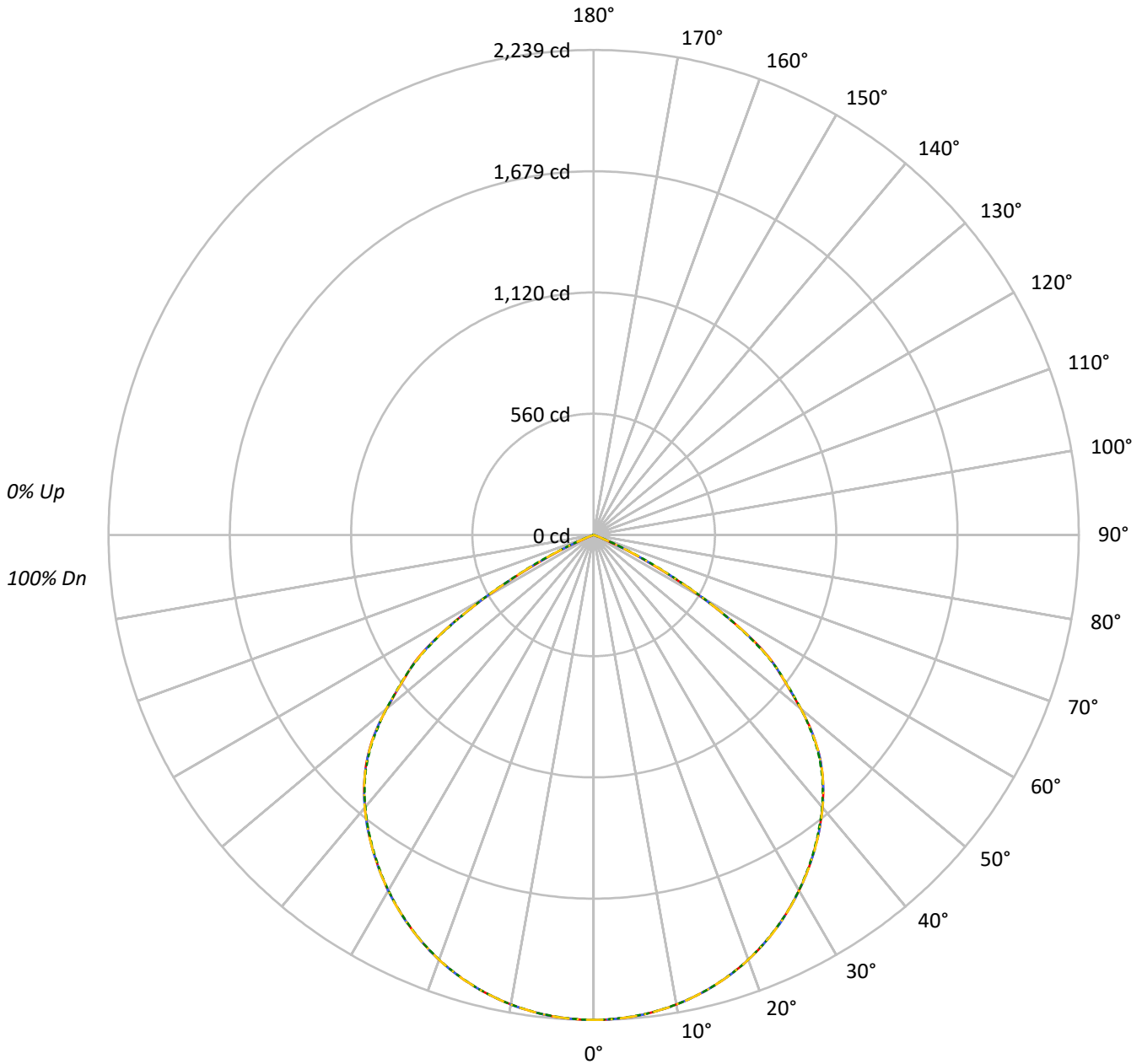
Lumens per Lamp: N/A
Luminaire Lumens: 5057.1 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.37
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	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°	68351	68351	68351	68351
5°	68336	68306	68336	68306
10°	68252	68237	68252	68237
15°	68073	68060	68073	68060
20°	67799	67783	67799	67783
25°	67380	67349	67380	67349
30°	66840	66791	66840	66791
35°	66207	66122	66207	66122
40°	65465	65329	65465	65329
45°	63983	63754	63983	63754
50°	59257	59257	59257	59257
55°	52738	52153	52738	52153
60°	35214	35708	35214	35708
65°	12469	14925	12469	14925
70°	125	1410	125	1410
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: 63983 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.9	4.2
10°-20°	607.9	12.0
20°-30°	921.7	18.2
30°-40°	1111.1	22.0
40°-50°	1132.7	22.4
50°-60°	851.2	16.8
60°-70°	219.9	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°	1741.5	34.4
0°-40°	2852.7	56.4
0°-60°	4836.6	95.6
0°-90°	5057.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5057.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2239	2239	2239	2239	2239	
5°	2230	2229	2230	2229	2230	212
15°	2154	2153	2154	2153	2154	608
25°	2000	1999	2000	1999	2000	922
35°	1776	1774	1776	1774	1776	1111
45°	1482	1477	1482	1477	1482	1134
55°	991	980	991	980	991	851
65°	173	207	173	207	173	206
75°	0	0	0	0	0	0
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°	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8
0.5°	2238.8	2238.8	2238.8	2238.8	2238.4	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8
1°	2238.8	2238.8	2238.8	2238.4	2237.9	2238.4	2238.8	2238.8	2238.8	2238.8	2238.8
1.5°	2238.4	2238.4	2238.4	2238.4	2237.9	2238.4	2238.4	2238.4	2238.4	2238.4	2238.4
2°	2237.9	2237.9	2237.9	2237.4	2236.9	2237.4	2237.9	2237.9	2237.9	2237.9	2237.9
2.5°	2236.5	2236.9	2236.9	2236.9	2236.0	2236.9	2236.9	2236.9	2236.5	2236.9	2236.9
3°	2235.5	2236.0	2236.0	2236.0	2235.0	2236.0	2236.0	2236.0	2235.5	2236.0	2236.0
3.5°	2234.5	2234.5	2234.5	2234.5	2234.1	2234.5	2234.5	2234.5	2234.5	2234.5	2234.5
4°	2233.1	2233.1	2233.1	2233.1	2232.2	2233.1	2233.1	2233.1	2233.1	2233.1	2233.1
4.5°	2231.7	2231.7	2231.7	2231.7	2230.7	2231.7	2231.7	2231.7	2231.7	2231.7	2231.7
5°	2229.8	2229.8	2229.8	2229.8	2228.8	2229.8	2229.8	2229.8	2229.8	2229.8	2229.8
5.5°	2227.9	2227.9	2227.9	2227.9	2226.9	2227.9	2227.9	2227.9	2227.9	2227.9	2227.9
6°	2225.5	2225.9	2225.5	2225.5	2225.0	2225.5	2225.5	2225.9	2225.5	2225.9	2225.5
6.5°	2223.1	2223.5	2223.5	2223.1	2222.6	2223.1	2223.5	2223.5	2223.1	2223.5	2223.5
7°	2220.7	2220.7	2220.7	2220.7	2220.2	2220.7	2220.7	2220.7	2220.7	2220.7	2220.7
7.5°	2217.8	2217.8	2217.8	2218.3	2217.3	2218.3	2217.8	2217.8	2217.8	2217.8	2217.8
8°	2214.9	2214.9	2214.9	2214.9	2214.5	2214.9	2214.9	2214.9	2214.9	2214.9	2214.9
8.5°	2212.1	2212.1	2212.1	2212.1	2211.1	2212.1	2212.1	2212.1	2212.1	2212.1	2212.1
9°	2208.7	2208.7	2208.7	2208.7	2208.2	2208.7	2208.7	2208.7	2208.7	2208.7	2208.7
9.5°	2204.9	2205.4	2205.4	2205.4	2204.4	2205.4	2205.4	2205.4	2204.9	2205.4	2205.4
10°	2201.6	2201.6	2201.6	2201.6	2201.1	2201.6	2201.6	2201.6	2201.6	2201.6	2201.6
10.5°	2197.7	2197.7	2197.7	2197.7	2197.2	2197.7	2197.7	2197.7	2197.7	2197.7	2197.7
11°	2193.4	2193.4	2193.4	2193.9	2192.9	2193.9	2193.4	2193.4	2193.4	2193.4	2193.4
11.5°	2189.1	2189.1	2189.1	2189.6	2188.6	2189.6	2189.1	2189.1	2189.1	2189.1	2189.1
12°	2184.8	2184.8	2184.8	2184.8	2184.3	2184.8	2184.8	2184.8	2184.8	2184.8	2184.8
12.5°	2180.0	2180.0	2180.0	2180.5	2179.6	2180.5	2180.0	2180.0	2180.0	2180.0	2180.0
13°	2175.3	2175.3	2175.3	2175.3	2174.8	2175.3	2175.3	2175.3	2175.3	2175.3	2175.3
13.5°	2170.0	2170.5	2170.5	2170.5	2169.5	2170.5	2170.5	2170.5	2170.0	2170.5	2170.5
14°	2164.7	2165.2	2165.2	2165.2	2164.3	2165.2	2165.2	2165.2	2164.7	2165.2	2165.2
14.5°	2159.5	2159.5	2159.5	2159.5	2159.0	2159.5	2159.5	2159.5	2159.5	2159.5	2159.5
15°	2153.7	2153.7	2153.7	2154.2	2153.3	2154.2	2153.7	2153.7	2153.7	2153.7	2153.7
15.5°	2148.0	2148.0	2148.0	2148.0	2147.5	2148.0	2148.0	2148.0	2148.0	2148.0	2148.0
16°	2141.8	2142.3	2142.3	2142.3	2141.3	2142.3	2142.3	2142.3	2141.8	2142.3	2142.3
16.5°	2135.6	2135.6	2136.0	2136.0	2135.6	2136.0	2136.0	2135.6	2135.6	2135.6	2136.0
17°	2129.3	2129.3	2129.8	2129.3	2128.9	2129.3	2129.8	2129.3	2129.3	2129.3	2129.8
17.5°	2122.7	2122.7	2123.1	2123.1	2122.7	2123.1	2123.1	2122.7	2122.7	2122.7	2123.1
18°	2116.0	2116.0	2116.0	2116.0	2115.5	2116.0	2116.0	2116.0	2116.0	2116.0	2116.0
18.5°	2108.8	2108.8	2109.3	2109.3	2108.3	2109.3	2109.3	2108.8	2108.8	2108.8	2109.3
19°	2101.6	2101.6	2102.1	2102.1	2101.1	2102.1	2102.1	2101.6	2101.6	2101.6	2102.1
19.5°	2094.4	2094.4	2094.4	2094.4	2094.0	2094.4	2094.4	2094.4	2094.4	2094.4	2094.4
20°	2086.8	2086.8	2086.8	2086.8	2086.3	2086.8	2086.8	2086.8	2086.8	2086.8	2086.8
20.5°	2078.7	2079.1	2079.1	2079.1	2078.2	2079.1	2079.1	2079.1	2078.7	2079.1	2079.1
21°	2071.0	2071.0	2071.0	2071.0	2070.5	2071.0	2071.0	2071.0	2071.0	2071.0	2071.0



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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°	2045.7	2046.1	2046.1	2046.1	2045.2	2046.1	2046.1	2046.1	2045.7	2046.1	2046.1
23°	2037.1	2037.1	2037.1	2037.1	2036.6	2037.1	2037.1	2037.1	2037.1	2037.1	2037.1
23.5°	2028.0	2028.4	2028.4	2028.4	2027.5	2028.4	2028.4	2028.4	2028.0	2028.4	2028.4
24°	2018.9	2018.9	2019.4	2018.9	2018.4	2018.9	2019.4	2018.9	2018.9	2018.9	2019.4
24.5°	2009.3	2009.8	2010.3	2009.8	2008.8	2009.8	2010.3	2009.8	2009.3	2009.8	2010.3
25°	2000.2	2000.2	2000.7	2000.2	1999.3	2000.2	2000.7	2000.2	2000.2	2000.2	2000.7
25.5°	1990.2	1990.7	1991.2	1990.7	1989.7	1990.7	1991.2	1990.7	1990.2	1990.7	1991.2
26°	1980.6	1980.6	1981.1	1980.6	1979.7	1980.6	1981.1	1980.6	1980.6	1980.6	1981.1
26.5°	1970.6	1971.1	1971.1	1970.6	1969.6	1970.6	1971.1	1971.1	1970.6	1971.1	1971.1
27°	1960.5	1960.5	1961.0	1960.5	1959.6	1960.5	1961.0	1960.5	1960.5	1960.5	1961.0
27.5°	1950.0	1950.5	1950.5	1950.0	1949.1	1950.0	1950.5	1950.5	1950.0	1950.5	1950.5
28°	1939.5	1940.0	1940.0	1939.5	1938.5	1939.5	1940.0	1940.0	1939.5	1940.0	1940.0
28.5°	1929.0	1929.0	1929.5	1929.0	1928.0	1929.0	1929.5	1929.0	1929.0	1929.0	1929.5
29°	1918.0	1918.5	1918.5	1918.0	1916.6	1918.0	1918.5	1918.5	1918.0	1918.5	1918.5
29.5°	1907.0	1907.5	1907.5	1907.0	1905.6	1907.0	1907.5	1907.5	1907.0	1907.5	1907.5
30°	1896.0	1896.5	1896.5	1895.5	1894.6	1895.5	1896.5	1896.5	1896.0	1896.5	1896.5
30.5°	1885.0	1885.0	1885.0	1884.5	1883.1	1884.5	1885.0	1885.0	1885.0	1885.0	1885.0
31°	1873.0	1873.5	1874.0	1872.6	1871.6	1872.6	1874.0	1873.5	1873.0	1873.5	1874.0
31.5°	1861.6	1862.0	1862.0	1861.1	1859.6	1861.1	1862.0	1862.0	1861.6	1862.0	1862.0
32°	1850.1	1850.6	1850.6	1849.6	1847.7	1849.6	1850.6	1850.6	1850.1	1850.6	1850.6
32.5°	1838.1	1838.6	1838.6	1837.2	1835.7	1837.2	1838.6	1838.6	1838.1	1838.6	1838.6
33°	1825.7	1826.7	1826.7	1825.7	1823.8	1825.7	1826.7	1826.7	1825.7	1826.7	1826.7
33.5°	1813.7	1814.2	1814.7	1813.3	1811.4	1813.3	1814.7	1814.2	1813.7	1814.2	1814.7
34°	1801.3	1801.8	1802.3	1800.8	1799.4	1800.8	1802.3	1801.8	1801.3	1801.8	1802.3
34.5°	1788.9	1789.4	1789.8	1788.4	1787.0	1788.4	1789.8	1789.4	1788.9	1789.4	1789.8
35°	1776.4	1776.9	1777.4	1776.0	1774.1	1776.0	1777.4	1776.9	1776.4	1776.9	1777.4
35.5°	1763.5	1764.5	1764.5	1763.1	1761.1	1763.1	1764.5	1764.5	1763.5	1764.5	1764.5
36°	1751.1	1751.6	1752.1	1750.1	1748.2	1750.1	1752.1	1751.6	1751.1	1751.6	1752.1
36.5°	1738.2	1738.7	1739.1	1737.2	1735.3	1737.2	1739.1	1738.7	1738.2	1738.7	1739.1
37°	1724.8	1725.3	1725.8	1723.8	1722.4	1723.8	1725.8	1725.3	1724.8	1725.3	1725.8
37.5°	1711.4	1712.4	1712.8	1710.5	1708.5	1710.5	1712.8	1712.4	1711.4	1712.4	1712.8
38°	1698.0	1698.5	1699.5	1697.1	1695.6	1697.1	1699.5	1698.5	1698.0	1698.5	1699.5
38.5°	1684.2	1685.1	1685.6	1683.7	1681.8	1683.7	1685.6	1685.1	1684.2	1685.1	1685.6
39°	1670.8	1671.7	1672.2	1669.8	1667.9	1669.8	1672.2	1671.7	1670.8	1671.7	1672.2
39.5°	1656.9	1657.4	1657.9	1655.9	1653.6	1655.9	1657.9	1657.4	1656.9	1657.4	1657.9
40°	1642.6	1643.5	1643.5	1641.6	1639.2	1641.6	1643.5	1643.5	1642.6	1643.5	1643.5
40.5°	1628.2	1628.7	1629.2	1626.8	1624.9	1626.8	1629.2	1628.7	1628.2	1628.7	1629.2
41°	1613.4	1614.3	1614.8	1612.4	1610.0	1612.4	1614.8	1614.3	1613.4	1614.3	1614.8
41.5°	1598.6	1599.0	1599.5	1597.1	1595.2	1597.1	1599.5	1599.0	1598.6	1599.0	1599.5
42°	1583.3	1583.7	1584.2	1581.8	1579.4	1581.8	1584.2	1583.7	1583.3	1583.7	1584.2
42.5°	1567.5	1568.4	1568.4	1566.0	1563.7	1566.0	1568.4	1568.4	1567.5	1568.4	1568.4
43°	1551.7	1552.2	1552.2	1549.8	1547.4	1549.8	1552.2	1552.2	1551.7	1552.2	1552.2
43.5°	1535.0	1535.4	1535.4	1533.1	1530.7	1533.1	1535.4	1535.4	1535.0	1535.4	1535.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1481.9	1481.9	1481.4	1479.0	1476.6	1479.0	1481.4	1481.9	1481.9	1481.9	1481.4
45.5°	1462.8	1462.8	1462.3	1459.4	1457.0	1459.4	1462.3	1462.8	1462.8	1462.8	1462.3
46°	1443.2	1443.2	1442.2	1439.3	1436.5	1439.3	1442.2	1443.2	1443.2	1443.2	1442.2
46.5°	1422.1	1422.1	1421.2	1417.8	1415.9	1417.8	1421.2	1422.1	1422.1	1422.1	1421.2
47°	1400.1	1400.1	1398.7	1395.8	1393.4	1395.8	1398.7	1400.1	1400.1	1400.1	1398.7
47.5°	1377.2	1377.2	1375.7	1372.9	1370.5	1372.9	1375.7	1377.2	1377.2	1377.2	1375.7
48°	1353.3	1353.3	1352.3	1349.4	1347.5	1349.4	1352.3	1353.3	1353.3	1353.3	1352.3
48.5°	1328.4	1328.4	1327.4	1325.5	1323.6	1325.5	1327.4	1328.4	1328.4	1328.4	1327.4
49°	1302.1	1302.1	1301.6	1300.2	1299.2	1300.2	1301.6	1302.1	1302.1	1302.1	1301.6
49.5°	1275.8	1275.3	1275.8	1274.4	1273.9	1274.4	1275.8	1275.3	1275.8	1275.3	1275.8
50°	1247.6	1248.1	1249.0	1248.1	1247.6	1248.1	1249.0	1248.1	1247.6	1248.1	1249.0
50.5°	1218.4	1220.3	1221.8	1221.3	1221.3	1221.3	1221.8	1220.3	1218.4	1220.3	1221.8
51°	1190.7	1191.6	1193.1	1194.5	1195.5	1194.5	1193.1	1191.6	1190.7	1191.6	1193.1
51.5°	1163.4	1163.9	1165.8	1167.2	1168.7	1167.2	1165.8	1163.9	1163.4	1163.9	1165.8
52°	1136.2	1137.1	1139.0	1140.9	1143.3	1140.9	1139.0	1137.1	1136.2	1137.1	1139.0
52.5°	1110.3	1111.3	1113.7	1116.1	1118.0	1116.1	1113.7	1111.3	1110.3	1111.3	1113.7
53°	1086.0	1086.9	1089.3	1091.2	1093.1	1091.2	1089.3	1086.9	1086.0	1086.9	1089.3
53.5°	1063.0	1064.0	1064.9	1065.9	1067.3	1065.9	1064.9	1064.0	1063.0	1064.0	1064.9
54°	1041.5	1040.5	1040.5	1040.0	1040.0	1040.0	1040.5	1040.5	1041.5	1040.5	1040.5
54.5°	1017.6	1016.6	1014.7	1012.3	1010.4	1012.3	1014.7	1016.6	1017.6	1016.6	1014.7
55°	990.8	988.9	986.0	982.7	979.8	982.7	986.0	988.9	990.8	988.9	986.0
55.5°	959.2	956.8	954.0	951.1	948.2	951.1	954.0	956.8	959.2	956.8	954.0
56°	923.8	922.4	919.5	916.7	913.3	916.7	919.5	922.4	923.8	922.4	919.5
56.5°	885.1	883.7	882.7	879.9	877.5	879.9	882.7	883.7	885.1	883.7	882.7
57°	844.5	843.5	843.0	840.6	837.8	840.6	843.0	843.5	844.5	843.5	843.0
57.5°	801.4	801.4	801.4	799.0	797.1	799.0	801.4	801.4	801.4	801.4	801.4
58°	757.9	758.4	758.9	757.4	755.5	757.4	758.9	758.4	757.9	758.4	758.9
58.5°	713.4	713.4	714.9	714.4	712.5	714.4	714.9	713.4	713.4	713.4	714.9
59°	668.0	669.0	670.4	670.9	670.4	670.9	670.4	669.0	668.0	669.0	670.4
59.5°	622.6	623.5	625.9	627.9	627.9	627.9	625.9	623.5	622.6	623.5	625.9
60°	576.7	578.6	581.5	585.3	584.8	585.3	581.5	578.6	576.7	578.6	581.5
60.5°	531.3	533.7	537.5	541.8	542.3	541.8	537.5	533.7	531.3	533.7	537.5
61°	487.3	490.1	494.0	498.7	500.2	498.7	494.0	490.1	487.3	490.1	494.0
61.5°	444.2	446.6	451.9	456.2	459.1	456.2	451.9	446.6	444.2	446.6	451.9
62°	401.2	404.5	410.3	415.5	419.4	415.5	410.3	404.5	401.2	404.5	410.3
62.5°	358.6	362.5	370.1	375.9	379.7	375.9	370.1	362.5	358.6	362.5	370.1
63°	318.0	322.3	330.9	337.1	341.4	337.1	330.9	322.3	318.0	322.3	330.9
63.5°	279.3	283.6	292.6	300.3	307.5	300.3	292.6	283.6	279.3	283.6	292.6
64°	242.0	246.7	255.8	265.9	274.0	265.9	255.8	246.7	242.0	246.7	255.8
64.5°	206.1	212.3	221.9	232.4	240.0	232.4	221.9	212.3	206.1	212.3	221.9
65°	172.6	180.8	189.8	199.9	206.6	199.9	189.8	180.8	172.6	180.8	189.8
65.5°	142.0	151.1	159.2	168.8	175.0	168.8	159.2	151.1	142.0	151.1	159.2
66°	113.8	124.8	131.0	140.6	146.3	140.6	131.0	124.8	113.8	124.8	131.0



TEST NUMBER: P776763

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	43.5	58.8	65.5	73.6	77.9	73.6	65.5	58.8	43.5	58.8	65.5
68°	25.3	40.6	49.7	55.5	60.7	55.5	49.7	40.6	25.3	40.6	49.7
68.5°	9.6	27.3	35.9	42.1	48.3	42.1	35.9	27.3	9.6	27.3	35.9
69°	4.8	16.3	23.0	29.2	35.9	29.2	23.0	16.3	4.8	16.3	23.0
69.5°	2.9	7.2	12.9	19.1	25.8	19.1	12.9	7.2	2.9	7.2	12.9
70°	1.4	3.3	7.2	11.0	15.8	11.0	7.2	3.3	1.4	3.3	7.2
70.5°	0.5	1.9	4.3	5.3	6.2	5.3	4.3	1.9	0.5	1.9	4.3
71°	0.5	1.0	2.4	2.9	2.4	2.9	2.4	1.0	0.5	1.0	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: P776763
CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

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: P776763

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2238.8	2238.8	2238.8	2238.8	2238.8	2238.8
0.5°	2238.8	2238.4	2238.8	2238.8	2238.8	2238.8
1°	2238.4	2237.9	2238.4	2238.8	2238.8	2238.8
1.5°	2238.4	2237.9	2238.4	2238.4	2238.4	2238.4
2°	2237.4	2236.9	2237.4	2237.9	2237.9	2237.9
2.5°	2236.9	2236.0	2236.9	2236.9	2236.9	2236.5
3°	2236.0	2235.0	2236.0	2236.0	2236.0	2235.5
3.5°	2234.5	2234.1	2234.5	2234.5	2234.5	2234.5
4°	2233.1	2232.2	2233.1	2233.1	2233.1	2233.1
4.5°	2231.7	2230.7	2231.7	2231.7	2231.7	2231.7
5°	2229.8	2228.8	2229.8	2229.8	2229.8	2229.8
5.5°	2227.9	2226.9	2227.9	2227.9	2227.9	2227.9
6°	2225.5	2225.0	2225.5	2225.5	2225.9	2225.5
6.5°	2223.1	2222.6	2223.1	2223.5	2223.5	2223.1
7°	2220.7	2220.2	2220.7	2220.7	2220.7	2220.7
7.5°	2218.3	2217.3	2218.3	2217.8	2217.8	2217.8
8°	2214.9	2214.5	2214.9	2214.9	2214.9	2214.9
8.5°	2212.1	2211.1	2212.1	2212.1	2212.1	2212.1
9°	2208.7	2208.2	2208.7	2208.7	2208.7	2208.7
9.5°	2205.4	2204.4	2205.4	2205.4	2205.4	2204.9
10°	2201.6	2201.1	2201.6	2201.6	2201.6	2201.6
10.5°	2197.7	2197.2	2197.7	2197.7	2197.7	2197.7
11°	2193.9	2192.9	2193.9	2193.4	2193.4	2193.4
11.5°	2189.6	2188.6	2189.6	2189.1	2189.1	2189.1
12°	2184.8	2184.3	2184.8	2184.8	2184.8	2184.8
12.5°	2180.5	2179.6	2180.5	2180.0	2180.0	2180.0
13°	2175.3	2174.8	2175.3	2175.3	2175.3	2175.3
13.5°	2170.5	2169.5	2170.5	2170.5	2170.5	2170.0
14°	2165.2	2164.3	2165.2	2165.2	2165.2	2164.7
14.5°	2159.5	2159.0	2159.5	2159.5	2159.5	2159.5
15°	2154.2	2153.3	2154.2	2153.7	2153.7	2153.7
15.5°	2148.0	2147.5	2148.0	2148.0	2148.0	2148.0
16°	2142.3	2141.3	2142.3	2142.3	2142.3	2141.8
16.5°	2136.0	2135.6	2136.0	2136.0	2135.6	2135.6
17°	2129.3	2128.9	2129.3	2129.8	2129.3	2129.3
17.5°	2123.1	2122.7	2123.1	2123.1	2122.7	2122.7
18°	2116.0	2115.5	2116.0	2116.0	2116.0	2116.0
18.5°	2109.3	2108.3	2109.3	2109.3	2108.8	2108.8
19°	2102.1	2101.1	2102.1	2102.1	2101.6	2101.6
19.5°	2094.4	2094.0	2094.4	2094.4	2094.4	2094.4
20°	2086.8	2086.3	2086.8	2086.8	2086.8	2086.8
20.5°	2079.1	2078.2	2079.1	2079.1	2079.1	2078.7
21°	2071.0	2070.5	2071.0	2071.0	2071.0	2071.0



TEST NUMBER: P776763

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2046.1	2045.2	2046.1	2046.1	2046.1	2045.7
23°	2037.1	2036.6	2037.1	2037.1	2037.1	2037.1
23.5°	2028.4	2027.5	2028.4	2028.4	2028.4	2028.0
24°	2018.9	2018.4	2018.9	2019.4	2018.9	2018.9
24.5°	2009.8	2008.8	2009.8	2010.3	2009.8	2009.3
25°	2000.2	1999.3	2000.2	2000.7	2000.2	2000.2
25.5°	1990.7	1989.7	1990.7	1991.2	1990.7	1990.2
26°	1980.6	1979.7	1980.6	1981.1	1980.6	1980.6
26.5°	1970.6	1969.6	1970.6	1971.1	1971.1	1970.6
27°	1960.5	1959.6	1960.5	1961.0	1960.5	1960.5
27.5°	1950.0	1949.1	1950.0	1950.5	1950.5	1950.0
28°	1939.5	1938.5	1939.5	1940.0	1940.0	1939.5
28.5°	1929.0	1928.0	1929.0	1929.5	1929.0	1929.0
29°	1918.0	1916.6	1918.0	1918.5	1918.5	1918.0
29.5°	1907.0	1905.6	1907.0	1907.5	1907.5	1907.0
30°	1895.5	1894.6	1895.5	1896.5	1896.5	1896.0
30.5°	1884.5	1883.1	1884.5	1885.0	1885.0	1885.0
31°	1872.6	1871.6	1872.6	1874.0	1873.5	1873.0
31.5°	1861.1	1859.6	1861.1	1862.0	1862.0	1861.6
32°	1849.6	1847.7	1849.6	1850.6	1850.6	1850.1
32.5°	1837.2	1835.7	1837.2	1838.6	1838.6	1838.1
33°	1825.7	1823.8	1825.7	1826.7	1826.7	1825.7
33.5°	1813.3	1811.4	1813.3	1814.7	1814.2	1813.7
34°	1800.8	1799.4	1800.8	1802.3	1801.8	1801.3
34.5°	1788.4	1787.0	1788.4	1789.8	1789.4	1788.9
35°	1776.0	1774.1	1776.0	1777.4	1776.9	1776.4
35.5°	1763.1	1761.1	1763.1	1764.5	1764.5	1763.5
36°	1750.1	1748.2	1750.1	1752.1	1751.6	1751.1
36.5°	1737.2	1735.3	1737.2	1739.1	1738.7	1738.2
37°	1723.8	1722.4	1723.8	1725.8	1725.3	1724.8
37.5°	1710.5	1708.5	1710.5	1712.8	1712.4	1711.4
38°	1697.1	1695.6	1697.1	1699.5	1698.5	1698.0
38.5°	1683.7	1681.8	1683.7	1685.6	1685.1	1684.2
39°	1669.8	1667.9	1669.8	1672.2	1671.7	1670.8
39.5°	1655.9	1653.6	1655.9	1657.9	1657.4	1656.9
40°	1641.6	1639.2	1641.6	1643.5	1643.5	1642.6
40.5°	1626.8	1624.9	1626.8	1629.2	1628.7	1628.2
41°	1612.4	1610.0	1612.4	1614.8	1614.3	1613.4
41.5°	1597.1	1595.2	1597.1	1599.5	1599.0	1598.6
42°	1581.8	1579.4	1581.8	1584.2	1583.7	1583.3
42.5°	1566.0	1563.7	1566.0	1568.4	1568.4	1567.5
43°	1549.8	1547.4	1549.8	1552.2	1552.2	1551.7
43.5°	1533.1	1530.7	1533.1	1535.4	1535.4	1535.0



TEST NUMBER: P776763

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1479.0	1476.6	1479.0	1481.4	1481.9	1481.9
45.5°	1459.4	1457.0	1459.4	1462.3	1462.8	1462.8
46°	1439.3	1436.5	1439.3	1442.2	1443.2	1443.2
46.5°	1417.8	1415.9	1417.8	1421.2	1422.1	1422.1
47°	1395.8	1393.4	1395.8	1398.7	1400.1	1400.1
47.5°	1372.9	1370.5	1372.9	1375.7	1377.2	1377.2
48°	1349.4	1347.5	1349.4	1352.3	1353.3	1353.3
48.5°	1325.5	1323.6	1325.5	1327.4	1328.4	1328.4
49°	1300.2	1299.2	1300.2	1301.6	1302.1	1302.1
49.5°	1274.4	1273.9	1274.4	1275.8	1275.3	1275.8
50°	1248.1	1247.6	1248.1	1249.0	1248.1	1247.6
50.5°	1221.3	1221.3	1221.3	1221.8	1220.3	1218.4
51°	1194.5	1195.5	1194.5	1193.1	1191.6	1190.7
51.5°	1167.2	1168.7	1167.2	1165.8	1163.9	1163.4
52°	1140.9	1143.3	1140.9	1139.0	1137.1	1136.2
52.5°	1116.1	1118.0	1116.1	1113.7	1111.3	1110.3
53°	1091.2	1093.1	1091.2	1089.3	1086.9	1086.0
53.5°	1065.9	1067.3	1065.9	1064.9	1064.0	1063.0
54°	1040.0	1040.0	1040.0	1040.5	1040.5	1041.5
54.5°	1012.3	1010.4	1012.3	1014.7	1016.6	1017.6
55°	982.7	979.8	982.7	986.0	988.9	990.8
55.5°	951.1	948.2	951.1	954.0	956.8	959.2
56°	916.7	913.3	916.7	919.5	922.4	923.8
56.5°	879.9	877.5	879.9	882.7	883.7	885.1
57°	840.6	837.8	840.6	843.0	843.5	844.5
57.5°	799.0	797.1	799.0	801.4	801.4	801.4
58°	757.4	755.5	757.4	758.9	758.4	757.9
58.5°	714.4	712.5	714.4	714.9	713.4	713.4
59°	670.9	670.4	670.9	670.4	669.0	668.0
59.5°	627.9	627.9	627.9	625.9	623.5	622.6
60°	585.3	584.8	585.3	581.5	578.6	576.7
60.5°	541.8	542.3	541.8	537.5	533.7	531.3
61°	498.7	500.2	498.7	494.0	490.1	487.3
61.5°	456.2	459.1	456.2	451.9	446.6	444.2
62°	415.5	419.4	415.5	410.3	404.5	401.2
62.5°	375.9	379.7	375.9	370.1	362.5	358.6
63°	337.1	341.4	337.1	330.9	322.3	318.0
63.5°	300.3	307.5	300.3	292.6	283.6	279.3
64°	265.9	274.0	265.9	255.8	246.7	242.0
64.5°	232.4	240.0	232.4	221.9	212.3	206.1
65°	199.9	206.6	199.9	189.8	180.8	172.6
65.5°	168.8	175.0	168.8	159.2	151.1	142.0
66°	140.6	146.3	140.6	131.0	124.8	113.8



TEST NUMBER: P776763

CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	73.6	77.9	73.6	65.5	58.8	43.5
68°	55.5	60.7	55.5	49.7	40.6	25.3
68.5°	42.1	48.3	42.1	35.9	27.3	9.6
69°	29.2	35.9	29.2	23.0	16.3	4.8
69.5°	19.1	25.8	19.1	12.9	7.2	2.9
70°	11.0	15.8	11.0	7.2	3.3	1.4
70.5°	5.3	6.2	5.3	4.3	1.9	0.5
71°	2.9	2.4	2.9	2.4	1.0	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: P776763
CATALOG NUMBER: HCDJBL54050CSD-HCD81TRMB-5000lm-4000K

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°	2062.9	2062.9	2062.9	2062.9	2061.9	2062.9	2062.9	2062.9	2062.9	2062.9	2062.9	2062.9
22°	2054.3	2054.3	2054.7	2054.7	2053.8	2054.7	2054.7	2054.3	2054.3	2054.3	2054.3	2054.7



44°	1517.7	1518.2	1517.7	1515.4	1513.4	1515.4	1517.7	1518.2	1517.7	1518.2	1517.7
44.5°	1500.1	1500.5	1500.5	1497.7	1494.8	1497.7	1500.5	1500.5	1500.1	1500.5	1500.5



66.5°	89.9	100.9	106.2	115.2	120.5	115.2	106.2	100.9	89.9	100.9	106.2
67°	66.5	77.5	85.1	92.8	97.1	92.8	85.1	77.5	66.5	77.5	85.1



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°	2062.9	2061.9	2062.9	2062.9	2062.9	2062.9
22°	2054.7	2053.8	2054.7	2054.7	2054.3	2054.3



44°	1515.4	1513.4	1515.4	1517.7	1518.2	1517.7
44.5°	1497.7	1494.8	1497.7	1500.5	1500.5	1500.1



66.5°	115.2	120.5	115.2	106.2	100.9	89.9
67°	92.8	97.1	92.8	85.1	77.5	66.5

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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)