

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: P776329

Luminaire Tested: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776329
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B006-HCD4TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

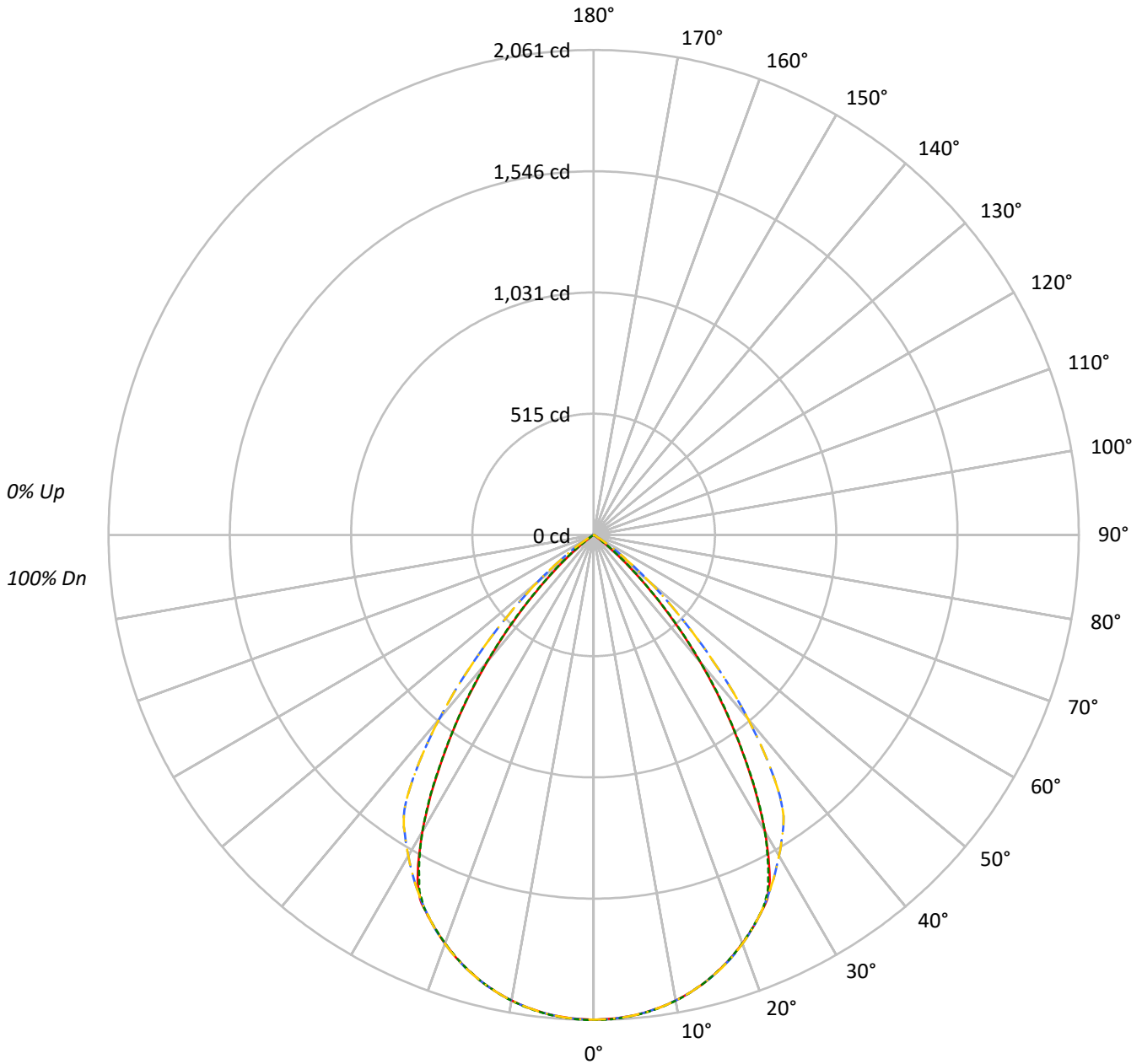
Lumens per Lamp: N/A
Luminaire Lumens: 2725.8 lumens
Efficiency: N/A
Efficacy: 70.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.14
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): 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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94				92
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	90	88	86				85
3	100	93	88	84	98	92	87	83	89	85	81	87	83	80	84	82	79				77
4	95	86	80	75	93	85	79	75	83	78	74	81	77	73	79	75	72				71
5	89	80	73	68	87	79	73	68	77	72	67	75	71	67	74	70	66				65
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61				59
7	79	69	62	57	77	68	62	57	67	61	57	65	60	56	64	60	56				55
8	74	64	57	53	73	63	57	53	62	56	52	61	56	52	60	55	52				50
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	52	48				47
10	67	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45				43

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	203635	203635	203635	203635
5°	203152	203281	203152	203281
10°	201647	201728	201647	201728
15°	198774	198815	198774	198815
20°	194309	194225	194309	194225
25°	188500	187736	188500	187736
30°	166007	165961	166007	165961
35°	129641	130088	129641	130088
40°	90488	91391	90488	91391
45°	51357	52727	51357	52727
50°	20421	21928	20421	21928
55°	3033	3877	3033	3877
60°	652	652	652	652
65°	468	468	468	468
70°	347	347	347	347
75°	306	306	306	306
80°	228	228	228	228
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 86834 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.2	7.1
10°-20°	546.9	20.1
20°-30°	787.8	28.9
30°-40°	743.5	27.3
40°-50°	383.2	14.1
50°-60°	66.9	2.5
60°-70°	2.4	0.1
70°-80°	0.7	0.0
80°-90°	0.1	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°	1529.0	56.1
0°-40°	2272.5	83.4
0°-60°	2722.7	99.9
0°-90°	2725.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2725.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2060	2060	2060	2060	2060	
5°	2048	2049	2048	2049	2048	194
15°	1942	1943	1942	1943	1942	547
25°	1728	1721	1728	1721	1728	781
35°	1074	1078	1074	1078	1074	667
45°	367	377	367	377	367	291
55°	18	22	18	22	18	31
65°	2	2	2	2	2	2
75°	1	1	1	1	1	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°	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2
0.5°	2059.8	2059.8	2059.8	2060.2	2061.4	2060.2	2059.8	2059.8	2059.8	2059.8	2059.8
1°	2059.4	2059.4	2059.4	2059.8	2061.0	2059.8	2059.4	2059.4	2059.4	2059.4	2059.4
1.5°	2058.6	2059.0	2059.0	2059.0	2060.2	2059.0	2059.0	2059.0	2058.6	2059.0	2059.0
2°	2057.8	2057.8	2058.2	2058.2	2059.4	2058.2	2058.2	2057.8	2057.8	2057.8	2058.2
2.5°	2056.5	2056.5	2056.9	2057.3	2058.2	2057.3	2056.9	2056.5	2056.5	2056.5	2056.9
3°	2055.3	2055.3	2055.7	2055.7	2056.9	2055.7	2055.7	2055.3	2055.3	2055.3	2055.7
3.5°	2053.7	2053.7	2054.1	2054.1	2055.3	2054.1	2054.1	2053.7	2053.7	2053.7	2054.1
4°	2052.0	2052.0	2052.0	2052.4	2053.3	2052.4	2052.0	2052.0	2052.0	2052.0	2052.0
4.5°	2050.0	2050.0	2050.0	2050.0	2051.2	2050.0	2050.0	2050.0	2050.0	2050.0	2050.0
5°	2047.5	2047.5	2047.5	2047.5	2048.8	2047.5	2047.5	2047.5	2047.5	2047.5	2047.5
5.5°	2044.7	2044.7	2045.1	2045.1	2045.9	2045.1	2045.1	2044.7	2044.7	2044.7	2045.1
6°	2041.8	2041.8	2041.8	2042.2	2043.0	2042.2	2041.8	2041.8	2041.8	2041.8	2041.8
6.5°	2038.5	2038.5	2039.0	2039.0	2039.8	2039.0	2039.0	2038.5	2038.5	2038.5	2039.0
7°	2035.3	2035.3	2035.3	2035.7	2036.5	2035.7	2035.3	2035.3	2035.3	2035.3	2035.3
7.5°	2031.6	2031.6	2031.6	2031.6	2032.8	2031.6	2031.6	2031.6	2031.6	2031.6	2031.6
8°	2027.5	2027.5	2027.9	2027.9	2028.7	2027.9	2027.9	2027.5	2027.5	2027.5	2027.9
8.5°	2023.4	2023.4	2023.4	2023.4	2024.2	2023.4	2023.4	2023.4	2023.4	2023.4	2023.4
9°	2018.9	2018.9	2018.9	2018.9	2019.7	2018.9	2018.9	2018.9	2018.9	2018.9	2018.9
9.5°	2014.0	2014.0	2014.0	2014.0	2014.8	2014.0	2014.0	2014.0	2014.0	2014.0	2014.0
10°	2009.1	2009.1	2009.1	2009.1	2009.9	2009.1	2009.1	2009.1	2009.1	2009.1	2009.1
10.5°	2003.8	2003.8	2003.8	2003.4	2004.6	2003.4	2003.8	2003.8	2003.8	2003.8	2003.8
11°	1998.1	1998.1	1998.5	1998.1	1998.9	1998.1	1998.5	1998.1	1998.1	1998.1	1998.5
11.5°	1992.4	1992.4	1992.4	1992.0	1992.8	1992.0	1992.4	1992.4	1992.4	1992.4	1992.4
12°	1986.2	1986.2	1986.2	1985.8	1986.6	1985.8	1986.2	1986.2	1986.2	1986.2	1986.2
12.5°	1979.3	1979.7	1979.7	1979.3	1979.7	1979.3	1979.7	1979.7	1979.3	1979.7	1979.7
13°	1972.8	1973.2	1973.2	1972.3	1973.2	1972.3	1973.2	1973.2	1972.8	1973.2	1973.2
13.5°	1965.8	1965.8	1966.2	1965.4	1966.2	1965.4	1966.2	1965.8	1965.8	1965.8	1966.2
14°	1958.4	1958.9	1958.9	1958.0	1958.4	1958.0	1958.9	1958.9	1958.4	1958.9	1958.9
14.5°	1950.7	1951.1	1951.5	1950.7	1950.7	1950.7	1951.5	1951.1	1950.7	1951.1	1951.5
15°	1942.5	1943.3	1943.3	1942.5	1942.9	1942.5	1943.3	1943.3	1942.5	1943.3	1943.3
15.5°	1934.3	1935.2	1935.2	1934.3	1934.3	1934.3	1935.2	1935.2	1934.3	1935.2	1935.2
16°	1925.8	1926.6	1927.0	1925.8	1925.8	1925.8	1927.0	1926.6	1925.8	1926.6	1927.0
16.5°	1917.2	1917.6	1918.4	1917.2	1916.8	1917.2	1918.4	1917.6	1917.2	1917.6	1918.4
17°	1908.2	1908.6	1909.4	1907.8	1907.8	1907.8	1909.4	1908.6	1908.2	1908.6	1909.4
17.5°	1898.4	1899.2	1900.0	1898.4	1898.4	1898.4	1900.0	1899.2	1898.4	1899.2	1900.0
18°	1889.0	1889.4	1890.2	1889.0	1888.6	1889.0	1890.2	1889.4	1889.0	1889.4	1890.2
18.5°	1879.2	1879.6	1880.4	1878.8	1878.3	1878.8	1880.4	1879.6	1879.2	1879.6	1880.4
19°	1868.5	1869.4	1870.2	1868.5	1867.7	1868.5	1870.2	1869.4	1868.5	1869.4	1870.2
19.5°	1858.3	1858.7	1859.5	1857.9	1857.5	1857.9	1859.5	1858.7	1858.3	1858.7	1859.5
20°	1847.3	1848.1	1848.9	1846.9	1846.5	1846.9	1848.9	1848.1	1847.3	1848.1	1848.9
20.5°	1836.7	1837.1	1837.9	1835.8	1835.4	1835.8	1837.9	1837.1	1836.7	1837.1	1837.9
21°	1825.2	1825.6	1826.4	1824.4	1824.0	1824.4	1826.4	1825.6	1825.2	1825.6	1826.4



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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°	1790.1	1790.1	1790.5	1788.8	1788.8	1788.8	1790.5	1790.1	1790.1	1790.1	1790.5
23°	1777.8	1777.8	1777.8	1776.6	1776.2	1776.6	1777.8	1777.8	1777.8	1777.8	1777.8
23.5°	1765.5	1765.5	1764.7	1763.9	1763.9	1763.9	1764.7	1765.5	1765.5	1765.5	1764.7
24°	1752.9	1752.9	1751.6	1751.2	1752.1	1751.2	1751.6	1752.9	1752.9	1752.9	1751.6
24.5°	1740.2	1739.8	1738.2	1738.2	1739.4	1738.2	1738.2	1739.8	1740.2	1739.8	1738.2
25°	1728.4	1726.3	1724.3	1724.7	1721.4	1724.7	1724.3	1726.3	1728.4	1726.3	1724.3
25.5°	1714.5	1713.2	1710.4	1711.6	1704.2	1711.6	1710.4	1713.2	1714.5	1713.2	1710.4
26°	1691.2	1699.7	1696.1	1698.5	1687.1	1698.5	1696.1	1699.7	1691.2	1699.7	1696.1
26.5°	1671.5	1686.3	1681.8	1684.6	1662.1	1684.6	1681.8	1686.3	1671.5	1686.3	1681.8
27°	1647.8	1673.6	1667.0	1665.4	1633.1	1665.4	1667.0	1673.6	1647.8	1673.6	1667.0
27.5°	1618.4	1656.0	1651.9	1647.8	1607.0	1647.8	1651.9	1656.0	1618.4	1656.0	1651.9
28°	1587.4	1632.7	1636.8	1629.0	1578.0	1629.0	1636.8	1632.7	1587.4	1632.7	1636.8
28.5°	1555.9	1612.7	1621.7	1602.5	1547.7	1602.5	1621.7	1612.7	1555.9	1612.7	1621.7
29°	1522.8	1587.8	1606.2	1574.7	1518.3	1574.7	1606.2	1587.8	1522.8	1587.8	1606.2
29.5°	1489.3	1558.3	1590.6	1547.7	1486.4	1547.7	1590.6	1558.3	1489.3	1558.3	1590.6
30°	1454.5	1528.1	1574.7	1519.1	1454.1	1519.1	1574.7	1528.1	1454.5	1528.1	1574.7
30.5°	1419.0	1496.2	1559.2	1489.3	1420.6	1489.3	1559.2	1496.2	1419.0	1496.2	1559.2
31°	1382.2	1464.3	1543.2	1458.6	1386.3	1458.6	1543.2	1464.3	1382.2	1464.3	1543.2
31.5°	1345.0	1431.2	1527.3	1428.0	1349.1	1428.0	1527.3	1431.2	1345.0	1431.2	1527.3
32°	1307.0	1397.7	1511.3	1396.5	1311.1	1396.5	1511.3	1397.7	1307.0	1397.7	1511.3
32.5°	1268.2	1363.0	1495.8	1364.2	1272.7	1364.2	1495.8	1363.0	1268.2	1363.0	1495.8
33°	1229.3	1328.2	1479.9	1330.3	1234.7	1330.3	1479.9	1328.2	1229.3	1328.2	1479.9
33.5°	1190.1	1291.9	1461.5	1295.5	1193.4	1295.5	1461.5	1291.9	1190.1	1291.9	1461.5
34°	1151.7	1255.1	1441.9	1259.2	1154.1	1259.2	1441.9	1255.1	1151.7	1255.1	1441.9
34.5°	1112.9	1217.9	1419.0	1221.6	1115.3	1221.6	1419.0	1217.9	1112.9	1217.9	1419.0
35°	1074.4	1180.7	1391.2	1183.6	1078.1	1183.6	1391.2	1180.7	1074.4	1180.7	1391.2
35.5°	1036.8	1143.9	1361.3	1146.4	1039.7	1146.4	1361.3	1143.9	1036.8	1143.9	1361.3
36°	999.7	1106.3	1328.2	1108.4	1003.7	1108.4	1328.2	1106.3	999.7	1106.3	1328.2
36.5°	962.1	1069.5	1292.7	1071.2	967.0	1071.2	1292.7	1069.5	962.1	1069.5	1292.7
37°	924.9	1032.8	1255.1	1034.4	930.6	1034.4	1255.1	1032.8	924.9	1032.8	1255.1
37.5°	887.3	996.4	1217.1	998.8	893.8	998.8	1217.1	996.4	887.3	996.4	1217.1
38°	849.7	960.0	1177.8	962.9	857.0	962.9	1177.8	960.0	849.7	960.0	1177.8
38.5°	811.7	924.9	1139.0	928.1	819.4	928.1	1139.0	924.9	811.7	924.9	1139.0
39°	774.9	889.3	1099.8	893.4	782.6	893.4	1099.8	889.3	774.9	889.3	1099.8
39.5°	738.5	853.8	1060.1	859.1	744.6	859.1	1060.1	853.8	738.5	853.8	1060.1
40°	701.3	817.8	1019.7	823.9	708.3	823.9	1019.7	817.8	701.3	817.8	1019.7
40.5°	664.9	782.2	978.8	788.4	671.5	788.4	978.8	782.2	664.9	782.2	978.8
41°	629.8	747.1	937.9	753.2	635.9	753.2	937.9	747.1	629.8	747.1	937.9
41.5°	594.6	711.9	896.7	718.1	601.2	718.1	896.7	711.9	594.6	711.9	896.7
42°	560.7	677.6	855.4	682.9	567.7	682.9	855.4	677.6	560.7	677.6	855.4
42.5°	527.2	643.3	814.9	649.0	534.6	649.0	814.9	643.3	527.2	643.3	814.9
43°	494.1	609.8	774.5	614.7	501.9	614.7	774.5	609.8	494.1	609.8	774.5
43.5°	461.0	576.7	734.8	582.4	470.0	582.4	734.8	576.7	461.0	576.7	734.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	367.4	481.0	621.2	487.2	377.2	487.2	621.2	481.0	367.4	481.0	621.2
45.5°	338.8	450.4	585.7	457.3	348.2	457.3	585.7	450.4	338.8	450.4	585.7
46°	311.4	420.5	551.7	427.9	320.4	427.9	551.7	420.5	311.4	420.5	551.7
46.5°	283.6	390.3	518.2	398.5	293.8	398.5	518.2	390.3	283.6	390.3	518.2
47°	257.5	361.7	485.5	369.5	268.9	369.5	485.5	361.7	257.5	361.7	485.5
47.5°	231.3	333.9	454.1	340.8	244.4	340.8	454.1	333.9	231.3	333.9	454.1
48°	208.4	307.3	423.8	314.3	220.7	314.3	423.8	307.3	208.4	307.3	423.8
48.5°	186.4	281.2	394.8	288.9	199.4	288.9	394.8	281.2	186.4	281.2	394.8
49°	168.0	255.4	365.8	264.0	179.8	264.0	365.8	255.4	168.0	255.4	365.8
49.5°	150.4	231.3	338.0	240.3	161.0	240.3	338.0	231.3	150.4	231.3	338.0
50°	132.8	208.4	310.6	217.4	142.6	217.4	310.6	208.4	132.8	208.4	310.6
50.5°	116.1	186.8	285.3	196.2	124.7	196.2	285.3	186.8	116.1	186.8	285.3
51°	100.1	168.0	260.7	177.0	109.5	177.0	260.7	168.0	100.1	168.0	260.7
51.5°	87.1	150.0	237.4	158.2	95.2	158.2	237.4	150.0	87.1	150.0	237.4
52°	74.4	132.4	215.0	140.2	81.7	140.2	215.0	132.4	74.4	132.4	215.0
52.5°	62.5	115.3	193.7	123.0	69.1	123.0	193.7	115.3	62.5	115.3	193.7
53°	51.5	99.7	174.9	107.9	57.2	107.9	174.9	99.7	51.5	99.7	174.9
53.5°	42.5	85.8	156.5	94.0	45.8	94.0	156.5	85.8	42.5	85.8	156.5
54°	33.1	73.2	139.4	80.5	36.4	80.5	139.4	73.2	33.1	73.2	139.4
54.5°	24.1	61.3	123.4	67.8	29.4	67.8	123.4	61.3	24.1	61.3	123.4
55°	17.6	51.1	107.9	56.0	22.5	56.0	107.9	51.1	17.6	51.1	107.9
55.5°	11.0	41.7	94.0	45.0	15.5	45.0	94.0	41.7	11.0	41.7	94.0
56°	7.4	32.7	80.5	35.1	8.6	35.1	80.5	32.7	7.4	32.7	80.5
56.5°	5.7	23.7	69.1	27.0	5.3	27.0	69.1	23.7	5.7	23.7	69.1
57°	4.1	15.5	58.9	19.6	4.5	19.6	58.9	15.5	4.1	15.5	58.9
57.5°	4.1	9.8	49.5	13.1	4.1	13.1	49.5	9.8	4.1	9.8	49.5
58°	3.7	6.1	41.3	8.6	4.1	8.6	41.3	6.1	3.7	6.1	41.3
58.5°	3.7	4.1	34.3	6.1	3.7	6.1	34.3	4.1	3.7	4.1	34.3
59°	3.3	3.3	27.8	4.5	3.7	4.5	27.8	3.3	3.3	3.3	27.8
59.5°	3.3	3.3	22.5	3.3	3.7	3.3	22.5	3.3	3.3	3.3	22.5
60°	3.3	3.3	18.0	3.3	3.3	3.3	18.0	3.3	3.3	3.3	18.0
60.5°	2.9	2.9	13.9	3.3	3.3	3.3	13.9	2.9	2.9	2.9	13.9
61°	2.9	2.9	11.0	2.9	3.3	2.9	11.0	2.9	2.9	2.9	11.0
61.5°	2.9	2.9	8.2	2.9	2.9	2.9	8.2	2.9	2.9	2.9	8.2
62°	2.5	2.5	6.1	2.9	2.9	2.9	6.1	2.5	2.5	2.5	6.1
62.5°	2.5	2.5	4.5	2.5	2.9	2.5	4.5	2.5	2.5	2.5	4.5
63°	2.5	2.5	3.3	2.5	2.5	2.5	3.3	2.5	2.5	2.5	3.3
63.5°	2.5	2.0	2.5	2.5	2.5	2.5	2.5	2.0	2.5	2.0	2.5
64°	2.0	2.0	2.0	2.0	2.5	2.0	2.0	2.0	2.0	2.0	2.0
64.5°	2.0	2.0	1.6	2.0	2.5	2.0	1.6	2.0	2.0	2.0	1.6
65°	2.0	2.0	1.6	2.0	2.0	2.0	1.6	2.0	2.0	2.0	1.6
65.5°	2.0	1.6	1.6	2.0	2.0	2.0	1.6	1.6	2.0	1.6	1.6
66°	2.0	1.6	1.2	1.6	2.0	1.6	1.2	1.6	2.0	1.6	1.2



TEST NUMBER: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.6	1.6	1.2	1.6	1.6	1.6	1.2	1.6	1.6	1.6	1.2
68°	1.6	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.6	1.2	1.2
68.5°	1.6	1.2	0.8	1.2	1.6	1.2	0.8	1.2	1.6	1.2	0.8
69°	1.2	1.2	0.8	1.2	1.6	1.2	0.8	1.2	1.2	1.2	0.8
69.5°	1.2	1.2	0.8	1.2	1.6	1.2	0.8	1.2	1.2	1.2	0.8
70°	1.2	1.2	0.8	1.2	1.2	1.2	0.8	1.2	1.2	1.2	0.8
70.5°	1.2	1.2	0.8	1.2	1.2	1.2	0.8	1.2	1.2	1.2	0.8
71°	1.2	0.8	0.8	1.2	1.2	1.2	0.8	0.8	1.2	0.8	0.8
71.5°	1.2	0.8	0.8	0.8	1.2	0.8	0.8	0.8	1.2	0.8	0.8
72°	1.2	0.8	0.8	0.8	1.2	0.8	0.8	0.8	1.2	0.8	0.8
72.5°	0.8	0.8	0.4	0.8	1.2	0.8	0.4	0.8	0.8	0.8	0.4
73°	0.8	0.8	0.4	0.8	1.2	0.8	0.4	0.8	0.8	0.8	0.4
73.5°	0.8	0.8	0.4	0.8	0.8	0.8	0.4	0.8	0.8	0.8	0.4
74°	0.8	0.8	0.4	0.8	0.8	0.8	0.4	0.8	0.8	0.8	0.4
74.5°	0.8	0.8	0.4	0.8	0.8	0.8	0.4	0.8	0.8	0.8	0.4
75°	0.8	0.8	0.4	0.8	0.8	0.8	0.4	0.8	0.8	0.8	0.4
75.5°	0.8	0.4	0.4	0.8	0.8	0.8	0.4	0.4	0.8	0.4	0.4
76°	0.8	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.8	0.4	0.4
76.5°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4
77°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
79.5°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
80°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
80.5°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
81°	0.4	0.4	0.0	0.4	0.4	0.4	0.0	0.4	0.4	0.4	0.0
81.5°	0.4	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.4	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.4	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: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

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: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2060.2	2060.2	2060.2	2060.2	2060.2	2060.2
0.5°	2060.2	2061.4	2060.2	2059.8	2059.8	2059.8
1°	2059.8	2061.0	2059.8	2059.4	2059.4	2059.4
1.5°	2059.0	2060.2	2059.0	2059.0	2059.0	2058.6
2°	2058.2	2059.4	2058.2	2058.2	2057.8	2057.8
2.5°	2057.3	2058.2	2057.3	2056.9	2056.5	2056.5
3°	2055.7	2056.9	2055.7	2055.7	2055.3	2055.3
3.5°	2054.1	2055.3	2054.1	2054.1	2053.7	2053.7
4°	2052.4	2053.3	2052.4	2052.0	2052.0	2052.0
4.5°	2050.0	2051.2	2050.0	2050.0	2050.0	2050.0
5°	2047.5	2048.8	2047.5	2047.5	2047.5	2047.5
5.5°	2045.1	2045.9	2045.1	2045.1	2044.7	2044.7
6°	2042.2	2043.0	2042.2	2041.8	2041.8	2041.8
6.5°	2039.0	2039.8	2039.0	2039.0	2038.5	2038.5
7°	2035.7	2036.5	2035.7	2035.3	2035.3	2035.3
7.5°	2031.6	2032.8	2031.6	2031.6	2031.6	2031.6
8°	2027.9	2028.7	2027.9	2027.9	2027.5	2027.5
8.5°	2023.4	2024.2	2023.4	2023.4	2023.4	2023.4
9°	2018.9	2019.7	2018.9	2018.9	2018.9	2018.9
9.5°	2014.0	2014.8	2014.0	2014.0	2014.0	2014.0
10°	2009.1	2009.9	2009.1	2009.1	2009.1	2009.1
10.5°	2003.4	2004.6	2003.4	2003.8	2003.8	2003.8
11°	1998.1	1998.9	1998.1	1998.5	1998.1	1998.1
11.5°	1992.0	1992.8	1992.0	1992.4	1992.4	1992.4
12°	1985.8	1986.6	1985.8	1986.2	1986.2	1986.2
12.5°	1979.3	1979.7	1979.3	1979.7	1979.7	1979.3
13°	1972.3	1973.2	1972.3	1973.2	1973.2	1972.8
13.5°	1965.4	1966.2	1965.4	1966.2	1965.8	1965.8
14°	1958.0	1958.4	1958.0	1958.9	1958.9	1958.4
14.5°	1950.7	1950.7	1950.7	1951.5	1951.1	1950.7
15°	1942.5	1942.9	1942.5	1943.3	1943.3	1942.5
15.5°	1934.3	1934.3	1934.3	1935.2	1935.2	1934.3
16°	1925.8	1925.8	1925.8	1927.0	1926.6	1925.8
16.5°	1917.2	1916.8	1917.2	1918.4	1917.6	1917.2
17°	1907.8	1907.8	1907.8	1909.4	1908.6	1908.2
17.5°	1898.4	1898.4	1898.4	1900.0	1899.2	1898.4
18°	1889.0	1888.6	1889.0	1890.2	1889.4	1889.0
18.5°	1878.8	1878.3	1878.8	1880.4	1879.6	1879.2
19°	1868.5	1867.7	1868.5	1870.2	1869.4	1868.5
19.5°	1857.9	1857.5	1857.9	1859.5	1858.7	1858.3
20°	1846.9	1846.5	1846.9	1848.9	1848.1	1847.3
20.5°	1835.8	1835.4	1835.8	1837.9	1837.1	1836.7
21°	1824.4	1824.0	1824.4	1826.4	1825.6	1825.2



TEST NUMBER: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1788.8	1788.8	1788.8	1790.5	1790.1	1790.1
23°	1776.6	1776.2	1776.6	1777.8	1777.8	1777.8
23.5°	1763.9	1763.9	1763.9	1764.7	1765.5	1765.5
24°	1751.2	1752.1	1751.2	1751.6	1752.9	1752.9
24.5°	1738.2	1739.4	1738.2	1738.2	1739.8	1740.2
25°	1724.7	1721.4	1724.7	1724.3	1726.3	1728.4
25.5°	1711.6	1704.2	1711.6	1710.4	1713.2	1714.5
26°	1698.5	1687.1	1698.5	1696.1	1699.7	1691.2
26.5°	1684.6	1662.1	1684.6	1681.8	1686.3	1671.5
27°	1665.4	1633.1	1665.4	1667.0	1673.6	1647.8
27.5°	1647.8	1607.0	1647.8	1651.9	1656.0	1618.4
28°	1629.0	1578.0	1629.0	1636.8	1632.7	1587.4
28.5°	1602.5	1547.7	1602.5	1621.7	1612.7	1555.9
29°	1574.7	1518.3	1574.7	1606.2	1587.8	1522.8
29.5°	1547.7	1486.4	1547.7	1590.6	1558.3	1489.3
30°	1519.1	1454.1	1519.1	1574.7	1528.1	1454.5
30.5°	1489.3	1420.6	1489.3	1559.2	1496.2	1419.0
31°	1458.6	1386.3	1458.6	1543.2	1464.3	1382.2
31.5°	1428.0	1349.1	1428.0	1527.3	1431.2	1345.0
32°	1396.5	1311.1	1396.5	1511.3	1397.7	1307.0
32.5°	1364.2	1272.7	1364.2	1495.8	1363.0	1268.2
33°	1330.3	1234.7	1330.3	1479.9	1328.2	1229.3
33.5°	1295.5	1193.4	1295.5	1461.5	1291.9	1190.1
34°	1259.2	1154.1	1259.2	1441.9	1255.1	1151.7
34.5°	1221.6	1115.3	1221.6	1419.0	1217.9	1112.9
35°	1183.6	1078.1	1183.6	1391.2	1180.7	1074.4
35.5°	1146.4	1039.7	1146.4	1361.3	1143.9	1036.8
36°	1108.4	1003.7	1108.4	1328.2	1106.3	999.7
36.5°	1071.2	967.0	1071.2	1292.7	1069.5	962.1
37°	1034.4	930.6	1034.4	1255.1	1032.8	924.9
37.5°	998.8	893.8	998.8	1217.1	996.4	887.3
38°	962.9	857.0	962.9	1177.8	960.0	849.7
38.5°	928.1	819.4	928.1	1139.0	924.9	811.7
39°	893.4	782.6	893.4	1099.8	889.3	774.9
39.5°	859.1	744.6	859.1	1060.1	853.8	738.5
40°	823.9	708.3	823.9	1019.7	817.8	701.3
40.5°	788.4	671.5	788.4	978.8	782.2	664.9
41°	753.2	635.9	753.2	937.9	747.1	629.8
41.5°	718.1	601.2	718.1	896.7	711.9	594.6
42°	682.9	567.7	682.9	855.4	677.6	560.7
42.5°	649.0	534.6	649.0	814.9	643.3	527.2
43°	614.7	501.9	614.7	774.5	609.8	494.1
43.5°	582.4	470.0	582.4	734.8	576.7	461.0



TEST NUMBER: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	487.2	377.2	487.2	621.2	481.0	367.4
45.5°	457.3	348.2	457.3	585.7	450.4	338.8
46°	427.9	320.4	427.9	551.7	420.5	311.4
46.5°	398.5	293.8	398.5	518.2	390.3	283.6
47°	369.5	268.9	369.5	485.5	361.7	257.5
47.5°	340.8	244.4	340.8	454.1	333.9	231.3
48°	314.3	220.7	314.3	423.8	307.3	208.4
48.5°	288.9	199.4	288.9	394.8	281.2	186.4
49°	264.0	179.8	264.0	365.8	255.4	168.0
49.5°	240.3	161.0	240.3	338.0	231.3	150.4
50°	217.4	142.6	217.4	310.6	208.4	132.8
50.5°	196.2	124.7	196.2	285.3	186.8	116.1
51°	177.0	109.5	177.0	260.7	168.0	100.1
51.5°	158.2	95.2	158.2	237.4	150.0	87.1
52°	140.2	81.7	140.2	215.0	132.4	74.4
52.5°	123.0	69.1	123.0	193.7	115.3	62.5
53°	107.9	57.2	107.9	174.9	99.7	51.5
53.5°	94.0	45.8	94.0	156.5	85.8	42.5
54°	80.5	36.4	80.5	139.4	73.2	33.1
54.5°	67.8	29.4	67.8	123.4	61.3	24.1
55°	56.0	22.5	56.0	107.9	51.1	17.6
55.5°	45.0	15.5	45.0	94.0	41.7	11.0
56°	35.1	8.6	35.1	80.5	32.7	7.4
56.5°	27.0	5.3	27.0	69.1	23.7	5.7
57°	19.6	4.5	19.6	58.9	15.5	4.1
57.5°	13.1	4.1	13.1	49.5	9.8	4.1
58°	8.6	4.1	8.6	41.3	6.1	3.7
58.5°	6.1	3.7	6.1	34.3	4.1	3.7
59°	4.5	3.7	4.5	27.8	3.3	3.3
59.5°	3.3	3.7	3.3	22.5	3.3	3.3
60°	3.3	3.3	3.3	18.0	3.3	3.3
60.5°	3.3	3.3	3.3	13.9	2.9	2.9
61°	2.9	3.3	2.9	11.0	2.9	2.9
61.5°	2.9	2.9	2.9	8.2	2.9	2.9
62°	2.9	2.9	2.9	6.1	2.5	2.5
62.5°	2.5	2.9	2.5	4.5	2.5	2.5
63°	2.5	2.5	2.5	3.3	2.5	2.5
63.5°	2.5	2.5	2.5	2.5	2.0	2.5
64°	2.0	2.5	2.0	2.0	2.0	2.0
64.5°	2.0	2.5	2.0	1.6	2.0	2.0
65°	2.0	2.0	2.0	1.6	2.0	2.0
65.5°	2.0	2.0	2.0	1.6	1.6	2.0
66°	1.6	2.0	1.6	1.2	1.6	2.0



TEST NUMBER: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.6	1.6	1.6	1.2	1.6	1.6
68°	1.6	1.6	1.6	1.2	1.2	1.6
68.5°	1.2	1.6	1.2	0.8	1.2	1.6
69°	1.2	1.6	1.2	0.8	1.2	1.2
69.5°	1.2	1.6	1.2	0.8	1.2	1.2
70°	1.2	1.2	1.2	0.8	1.2	1.2
70.5°	1.2	1.2	1.2	0.8	1.2	1.2
71°	1.2	1.2	1.2	0.8	0.8	1.2
71.5°	0.8	1.2	0.8	0.8	0.8	1.2
72°	0.8	1.2	0.8	0.8	0.8	1.2
72.5°	0.8	1.2	0.8	0.4	0.8	0.8
73°	0.8	1.2	0.8	0.4	0.8	0.8
73.5°	0.8	0.8	0.8	0.4	0.8	0.8
74°	0.8	0.8	0.8	0.4	0.8	0.8
74.5°	0.8	0.8	0.8	0.4	0.8	0.8
75°	0.8	0.8	0.8	0.4	0.8	0.8
75.5°	0.8	0.8	0.8	0.4	0.4	0.8
76°	0.4	0.8	0.4	0.4	0.4	0.8
76.5°	0.4	0.8	0.4	0.4	0.4	0.4
77°	0.4	0.8	0.4	0.4	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.4
78.5°	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.0	0.4	0.4
79.5°	0.4	0.4	0.4	0.0	0.4	0.4
80°	0.4	0.4	0.4	0.0	0.4	0.4
80.5°	0.4	0.4	0.4	0.0	0.4	0.4
81°	0.4	0.4	0.4	0.0	0.4	0.4
81.5°	0.4	0.4	0.4	0.0	0.0	0.4
82°	0.0	0.4	0.0	0.0	0.0	0.0
82.5°	0.0	0.4	0.0	0.0	0.0	0.0
83°	0.0	0.4	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: P776329

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-5000K

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°	1813.8	1814.2	1814.6	1813.0	1812.5	1813.0	1814.6	1814.2	1813.8	1814.2	1814.6
22°	1801.9	1802.3	1802.7	1800.7	1800.7	1800.7	1802.7	1802.3	1801.9	1802.3	1802.7



44°	429.1	544.0	695.6	549.7	438.1	549.7	695.6	544.0	429.1	544.0	695.6
44.5°	398.1	512.5	658.0	518.2	407.1	518.2	658.0	512.5	398.1	512.5	658.0



66.5°	1.6	1.6	1.2	1.6	2.0	1.6	1.2	1.6	1.6	1.6	1.2
67°	1.6	1.6	1.2	1.6	1.6	1.6	1.2	1.6	1.6	1.6	1.2



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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Scaled Data Report





21.5°	1813.0	1812.5	1813.0	1814.6	1814.2	1813.8
22°	1800.7	1800.7	1800.7	1802.7	1802.3	1801.9



44°	549.7	438.1	549.7	695.6	544.0	429.1
44.5°	518.2	407.1	518.2	658.0	512.5	398.1

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66.5°	1.6	2.0	1.6	1.2	1.6	1.6
67°	1.6	1.6	1.6	1.2	1.6	1.6

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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)