

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: P776246

Luminaire Tested: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776246
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B034)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K
Description: 4 INCH ROUND SHALLOW-WIDE LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4686.3 lumens
Efficiency: N/A
Efficacy: 121.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.14 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

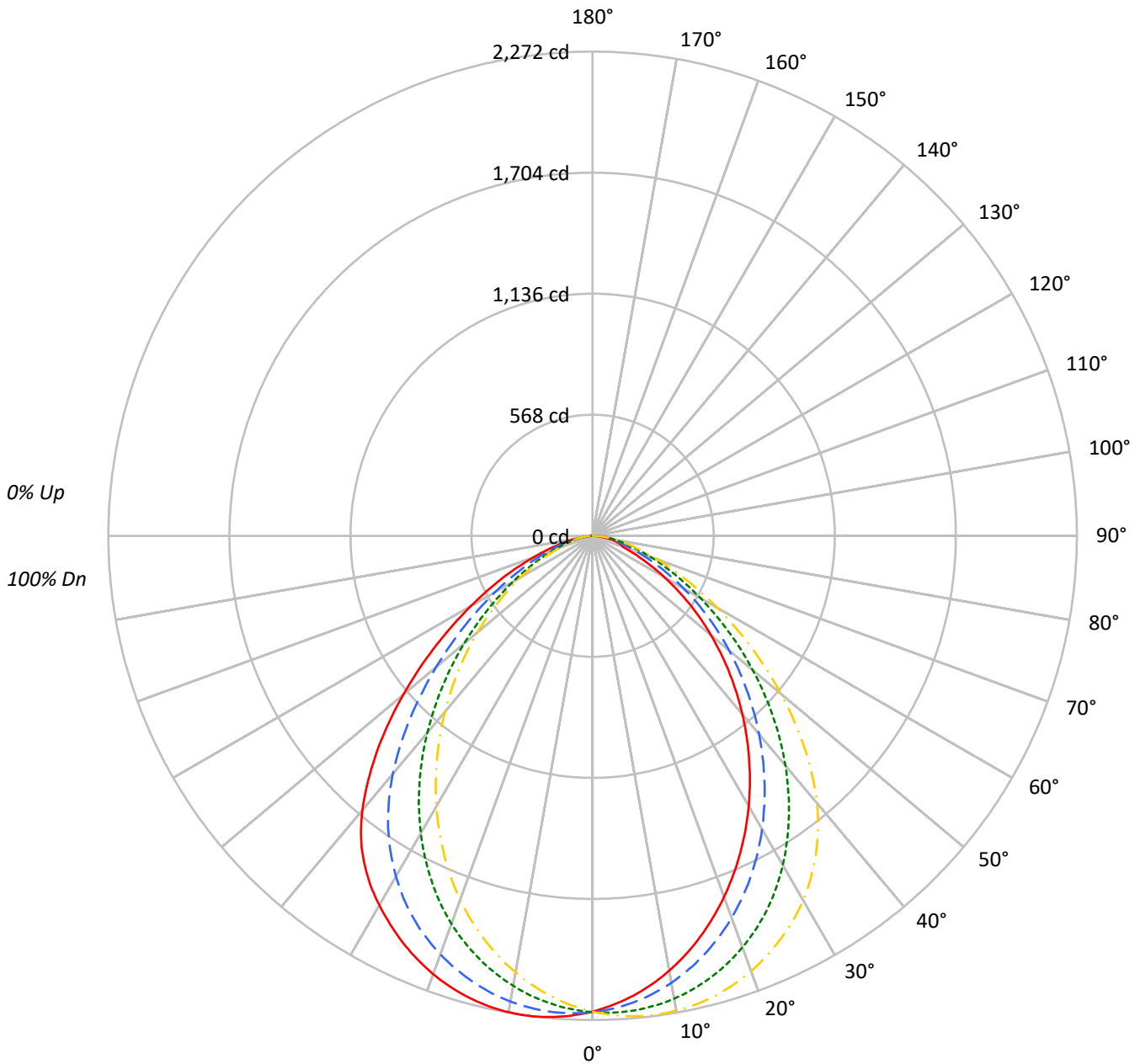
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																			
3	94	84	77	71	91	83	76	71	80	74	70	77	72	68	75	71	67	65																			
4	87	76	68	62	84	74	67	61	72	66	61	70	64	60	68	63	59	57																			
5	80	68	60	54	78	67	60	54	65	59	53	63	57	53	62	56	52	50																			
6	74	62	54	48	73	61	53	48	59	53	47	58	52	47	56	51	47	45																			
7	69	57	49	43	68	56	48	43	54	48	42	53	47	42	52	46	42	40																			
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	35	33																			
10	57	45	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	281123	281123	281123	281123
5°	273783	282437	286353	278534
10°	264783	281856	290112	274048
15°	253947	279458	292369	267771
20°	241523	275192	293085	259402
25°	227689	268805	292397	248184
30°	212790	259278	290812	234239
35°	196683	246614	287112	217561
40°	179498	231166	275933	198161
45°	161213	212862	254545	176679
50°	141770	192068	226957	154183
55°	120721	169628	196594	130770
60°	97886	146665	165895	108634
65°	74625	125130	137488	88740
70°	56482	105899	108217	70906
75°	59225	88545	84947	56550
80°	54211	77475	60443	43412
85°	27147	78552	16894	23248

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 89.5°
 Luminance: 288430 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.3	4.5
10°-20°	590.8	12.6
20°-30°	859.1	18.3
30°-40°	962.3	20.5
40°-50°	870.5	18.6
50°-60°	632.2	13.5
60°-70°	361.7	7.7
70°-80°	160.5	3.4
80°-90°	38.9	0.8
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°	1660.2	35.4
0°-40°	2622.4	56.0
0°-60°	4125.2	88.0
0°-90°	4686.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4686.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2234	2234	2234	2234	2234	
5°	2167	2236	2267	2205	2167	204
15°	1949	2145	2244	2055	1949	547
25°	1640	1936	2106	1787	1640	753
35°	1280	1605	1869	1416	1280	799
45°	906	1196	1430	993	906	698
55°	550	773	896	596	550	492
65°	251	420	462	298	251	253
75°	122	182	175	116	122	126
85°	19	54	12	16	19	30
90°	0	12	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°	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8
0.5°	2227.5	2233.0	2233.0	2232.6	2236.9	2236.9	2237.3	2237.3	2237.3	2240.4	2237.3
1°	2221.6	2228.7	2230.3	2231.8	2238.1	2239.7	2241.2	2241.2	2241.6	2243.6	2239.3
1.5°	2216.2	2224.4	2227.1	2230.6	2238.5	2242.4	2245.1	2245.1	2245.9	2246.7	2240.8
2°	2209.9	2219.3	2224.0	2229.1	2239.3	2244.4	2248.7	2248.7	2249.8	2249.4	2242.0
2.5°	2203.6	2214.2	2220.5	2227.5	2239.3	2246.3	2251.8	2251.8	2253.4	2251.8	2242.8
3°	2196.6	2208.7	2216.5	2225.6	2239.3	2247.9	2254.5	2254.5	2256.9	2253.8	2243.2
3.5°	2189.9	2202.8	2212.2	2223.2	2238.9	2249.4	2257.3	2257.3	2259.6	2255.7	2243.6
4°	2182.5	2197.0	2207.9	2220.5	2238.1	2250.6	2259.6	2259.6	2262.4	2256.9	2243.2
4.5°	2175.0	2190.7	2202.8	2217.7	2236.9	2251.4	2261.6	2261.6	2264.7	2258.1	2242.8
5°	2167.2	2183.7	2197.8	2214.6	2235.7	2251.8	2263.2	2263.2	2266.7	2258.8	2242.4
5.5°	2159.0	2177.0	2192.3	2211.1	2234.2	2251.8	2264.3	2264.3	2268.2	2259.6	2241.2
6°	2150.4	2169.6	2186.4	2207.1	2232.2	2251.4	2265.5	2265.5	2269.8	2259.6	2240.0
6.5°	2141.7	2162.1	2180.5	2202.8	2229.9	2251.0	2266.3	2266.3	2271.0	2259.6	2238.5
7°	2132.7	2154.3	2174.3	2198.5	2227.1	2250.2	2266.7	2266.7	2271.8	2259.2	2236.5
7.5°	2123.3	2146.1	2167.6	2193.8	2224.4	2249.4	2266.7	2266.7	2272.2	2258.5	2234.6
8°	2113.6	2137.4	2160.5	2188.7	2221.2	2247.9	2266.7	2266.7	2272.5	2257.7	2231.8
8.5°	2103.8	2128.4	2153.1	2183.3	2217.7	2245.9	2266.3	2266.3	2272.2	2256.5	2229.1
9°	2093.6	2119.4	2145.7	2177.8	2214.2	2244.0	2265.1	2265.1	2271.8	2254.5	2226.3
9.5°	2082.6	2110.0	2137.8	2171.5	2209.9	2241.6	2264.3	2264.3	2271.4	2253.0	2222.8
10°	2072.0	2100.2	2129.6	2165.2	2205.6	2239.3	2262.8	2262.8	2270.2	2250.6	2219.3
10.5°	2060.7	2090.1	2121.0	2158.6	2200.5	2236.1	2261.2	2261.2	2269.0	2248.3	2215.4
11°	2049.7	2080.3	2112.4	2151.9	2195.4	2233.0	2259.2	2259.2	2267.1	2245.5	2211.1
11.5°	2037.6	2069.3	2103.4	2144.9	2190.3	2229.5	2256.9	2256.9	2265.5	2242.4	2206.8
12°	2025.8	2059.1	2094.0	2137.1	2184.8	2225.6	2254.5	2254.5	2263.2	2239.3	2202.1
12.5°	2013.7	2047.8	2084.2	2129.6	2179.0	2221.6	2251.4	2251.4	2260.8	2235.7	2197.0
13°	2001.2	2036.4	2074.4	2121.4	2172.7	2217.3	2248.3	2248.3	2258.1	2231.8	2191.9
13.5°	1988.6	2024.7	2064.2	2112.8	2166.4	2212.6	2245.1	2245.1	2254.9	2227.5	2186.0
14°	1975.7	2012.9	2053.6	2104.2	2159.4	2207.5	2241.2	2241.2	2251.4	2223.2	2180.1
14.5°	1962.4	2000.8	2042.7	2095.1	2152.3	2202.1	2237.3	2237.3	2247.5	2218.5	2173.9
15°	1949.1	1988.6	2032.1	2086.1	2144.9	2196.6	2233.0	2233.0	2244.0	2213.4	2168.0
15.5°	1935.4	1975.3	2020.3	2076.4	2137.1	2190.7	2228.3	2228.3	2239.7	2207.9	2160.9
16°	1921.7	1962.8	2009.0	2066.6	2128.8	2184.4	2223.2	2223.2	2235.0	2202.5	2153.9
16.5°	1907.2	1949.9	1996.9	2056.8	2121.0	2178.2	2218.1	2218.1	2229.9	2196.6	2146.8
17°	1893.1	1936.5	1985.1	2046.6	2112.4	2171.5	2212.6	2212.6	2225.2	2190.3	2139.4
17.5°	1878.6	1922.8	1972.6	2035.6	2103.4	2164.5	2206.8	2206.8	2219.7	2183.7	2131.6
18°	1864.1	1909.1	1960.0	2024.7	2094.4	2157.0	2200.9	2200.9	2213.8	2177.4	2123.7
18.5°	1848.8	1895.0	1947.1	2013.3	2085.0	2149.6	2194.6	2194.6	2207.9	2170.3	2115.1
19°	1833.5	1880.5	1934.2	2001.6	2075.2	2141.7	2188.0	2188.0	2201.7	2162.9	2106.9
19.5°	1818.7	1866.1	1920.5	1989.8	2065.4	2133.5	2180.9	2180.9	2195.0	2155.5	2098.3
20°	1803.4	1851.6	1907.2	1978.1	2054.8	2125.3	2173.9	2173.9	2188.4	2148.0	2089.3
20.5°	1787.3	1836.7	1893.5	1965.5	2044.2	2116.7	2166.4	2166.4	2181.3	2139.8	2079.9
21°	1771.7	1821.4	1879.4	1953.0	2033.3	2107.7	2158.6	2158.6	2173.9	2131.6	2070.5



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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°	1723.1	1775.2	1835.9	1913.4	1998.8	2079.1	2133.9	2157.8	2150.4	2105.3	2040.3
23°	1707.1	1759.5	1821.0	1900.1	1987.1	2068.9	2125.3	2149.6	2141.7	2096.3	2029.7
23.5°	1690.2	1743.1	1805.7	1886.0	1974.5	2058.3	2116.3	2141.4	2133.5	2086.9	2019.2
24°	1673.4	1727.8	1790.5	1871.5	1962.0	2048.2	2106.9	2132.4	2124.5	2077.1	2007.8
24.5°	1656.5	1711.4	1774.8	1857.0	1949.1	2036.8	2097.5	2123.3	2115.5	2067.3	1996.1
25°	1639.7	1694.5	1758.7	1842.6	1935.8	2025.8	2087.7	2114.3	2105.7	2057.6	1984.3
25.5°	1622.5	1678.1	1742.7	1827.3	1922.1	2014.1	2077.9	2104.5	2096.3	2047.4	1972.2
26°	1605.6	1661.6	1725.9	1812.0	1908.3	2001.9	2067.7	2095.1	2086.9	2036.8	1959.6
26.5°	1588.0	1644.8	1709.8	1796.0	1893.9	1989.8	2057.2	2085.4	2076.7	2025.8	1946.7
27°	1570.8	1627.6	1693.3	1780.7	1879.0	1977.7	2046.6	2075.6	2066.6	2014.9	1933.0
27.5°	1553.2	1610.3	1676.5	1764.6	1864.1	1964.3	2035.6	2065.4	2056.4	2003.9	1919.3
28°	1535.5	1593.1	1658.9	1747.8	1848.8	1951.0	2024.3	2054.4	2045.4	1992.5	1905.2
28.5°	1517.9	1575.9	1642.4	1730.9	1833.2	1937.3	2012.1	2044.2	2034.8	1980.0	1890.3
29°	1499.9	1558.2	1625.2	1713.7	1817.1	1923.6	2000.4	2033.3	2023.9	1967.9	1875.5
29.5°	1481.9	1540.6	1608.0	1696.9	1800.7	1908.7	1987.8	2022.3	2012.9	1954.9	1860.6
30°	1464.3	1523.0	1589.2	1679.6	1784.2	1893.9	1975.3	2011.0	2001.2	1942.0	1845.3
30.5°	1445.8	1505.4	1571.9	1661.6	1767.8	1878.2	1962.0	1999.2	1989.8	1928.3	1829.2
31°	1427.4	1487.0	1553.9	1644.0	1750.5	1862.5	1948.3	1987.1	1978.1	1914.2	1813.2
31.5°	1409.4	1469.3	1535.9	1626.0	1732.9	1846.5	1934.6	1974.9	1966.3	1900.1	1797.1
32°	1391.4	1450.9	1517.1	1607.6	1715.3	1830.8	1920.1	1962.4	1953.8	1885.6	1780.3
32.5°	1373.0	1432.5	1499.1	1590.0	1697.7	1814.0	1904.8	1949.1	1941.6	1870.4	1763.4
33°	1354.6	1414.5	1480.3	1570.8	1679.6	1797.5	1889.5	1935.4	1928.3	1854.7	1745.8
33.5°	1336.2	1396.1	1462.3	1552.4	1661.2	1780.3	1873.9	1921.7	1913.8	1838.6	1728.2
34°	1317.8	1377.7	1443.1	1534.0	1642.8	1763.1	1858.2	1907.2	1898.6	1823.4	1709.8
34.5°	1299.0	1359.3	1424.7	1515.2	1623.6	1745.4	1842.2	1892.3	1883.7	1806.1	1691.4
35°	1280.2	1340.5	1405.5	1496.0	1605.2	1727.4	1825.7	1876.6	1868.8	1789.3	1672.6
35.5°	1261.8	1322.1	1386.7	1476.4	1586.0	1709.4	1808.9	1861.4	1853.9	1771.7	1652.6
36°	1243.0	1303.3	1367.5	1457.2	1566.9	1691.0	1791.6	1844.9	1837.9	1753.7	1633.0
36.5°	1224.6	1284.9	1349.1	1438.0	1547.7	1671.8	1774.0	1828.8	1821.0	1733.7	1612.3
37°	1205.4	1266.1	1330.3	1418.8	1528.1	1652.6	1756.0	1811.6	1803.4	1714.1	1591.5
37.5°	1187.0	1246.9	1310.3	1399.2	1507.7	1633.4	1737.2	1794.4	1785.4	1693.7	1570.4
38°	1167.8	1228.1	1291.6	1379.3	1487.8	1613.5	1718.0	1776.0	1765.4	1672.6	1548.8
38.5°	1149.8	1209.7	1272.0	1359.7	1467.8	1593.1	1698.8	1756.8	1745.4	1650.7	1526.9
39°	1131.0	1190.5	1252.8	1339.3	1447.4	1573.5	1678.9	1736.0	1724.7	1628.3	1503.8
39.5°	1111.8	1172.1	1233.6	1320.5	1427.1	1552.8	1658.9	1714.9	1702.0	1605.2	1481.1
40°	1092.6	1153.3	1214.4	1300.6	1407.1	1532.0	1637.3	1692.6	1679.6	1581.7	1457.6
40.5°	1074.6	1134.5	1195.2	1280.2	1385.9	1510.5	1615.8	1670.6	1656.5	1557.5	1433.7
41°	1055.0	1115.7	1175.6	1260.2	1365.2	1489.3	1593.1	1647.1	1633.0	1532.8	1409.8
41.5°	1036.6	1096.9	1156.8	1240.6	1344.4	1467.8	1571.6	1624.4	1608.8	1507.7	1385.9
42°	1017.8	1077.7	1137.6	1220.3	1323.3	1445.5	1548.1	1600.1	1584.1	1482.3	1361.3
42.5°	999.4	1059.3	1118.1	1200.3	1302.1	1423.5	1525.0	1577.0	1559.4	1457.2	1336.6
43°	980.6	1040.5	1098.9	1180.7	1281.4	1401.6	1501.1	1552.4	1534.4	1430.2	1311.5
43.5°	962.2	1022.1	1079.7	1160.8	1260.2	1378.9	1477.6	1527.7	1508.5	1403.9	1286.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	905.8	966.1	1022.5	1100.8	1196.0	1309.6	1404.3	1451.7	1430.2	1324.1	1209.7
45.5°	888.2	947.3	1003.3	1080.5	1174.8	1286.5	1380.1	1426.3	1403.6	1297.4	1184.2
46°	869.4	928.9	984.5	1060.5	1153.3	1262.6	1354.6	1400.4	1376.9	1270.8	1158.0
46.5°	851.0	910.9	965.7	1040.9	1131.4	1239.5	1329.9	1374.2	1349.5	1243.8	1132.6
47°	832.6	892.1	946.9	1020.9	1109.8	1215.6	1304.9	1347.6	1322.5	1216.8	1106.7
47.5°	814.6	873.7	928.1	1001.4	1088.3	1192.1	1279.4	1320.9	1295.1	1190.1	1081.6
48°	796.2	855.3	909.3	981.4	1067.2	1168.6	1254.0	1294.7	1268.1	1163.5	1056.2
48.5°	778.1	837.3	890.5	961.8	1045.6	1144.7	1228.9	1268.4	1241.0	1137.3	1031.1
49°	760.1	819.3	872.1	942.2	1024.1	1121.2	1203.4	1241.4	1213.2	1110.2	1006.5
49.5°	742.5	800.9	854.1	923.0	1002.5	1097.7	1178.0	1214.8	1186.2	1084.4	981.8
50°	724.1	783.2	835.3	903.9	981.0	1074.2	1152.5	1187.8	1159.2	1057.8	957.1
50.5°	706.5	765.2	816.9	883.9	959.9	1050.7	1127.5	1160.8	1131.8	1032.3	932.4
51°	688.9	747.2	798.9	864.3	938.3	1026.8	1102.0	1134.5	1105.1	1006.5	908.9
51.5°	671.2	729.2	780.9	845.5	917.2	1004.1	1076.9	1107.9	1077.7	980.6	885.1
52°	654.0	711.6	763.3	826.7	896.4	980.6	1052.3	1081.3	1051.1	955.5	861.6
52.5°	636.8	693.9	745.2	807.9	875.7	957.5	1026.8	1054.2	1024.5	930.5	838.5
53°	619.1	676.7	727.2	788.3	854.9	934.4	1001.8	1028.0	998.6	905.8	815.3
53.5°	601.1	658.7	709.6	769.9	833.8	912.1	977.1	1001.8	972.4	880.7	792.6
54°	584.3	641.9	692.4	751.1	813.4	889.0	952.4	975.9	945.8	856.9	770.3
54.5°	567.1	624.2	674.8	732.3	793.4	867.0	928.5	949.3	920.7	833.0	748.4
55°	550.2	607.8	657.5	714.3	773.1	845.1	904.6	925.0	896.0	809.5	726.8
55.5°	533.4	590.6	640.3	695.9	753.1	823.2	880.4	898.8	870.2	786.0	704.5
56°	516.5	574.1	623.5	677.5	732.7	800.9	856.1	873.7	845.5	762.5	683.8
56.5°	499.7	557.3	606.6	659.5	713.5	779.3	832.6	848.6	820.8	739.8	663.4
57°	483.3	540.8	589.8	641.9	694.3	758.2	809.5	824.0	796.5	717.4	642.6
57.5°	467.2	524.4	572.9	623.8	675.1	737.4	786.8	799.7	772.7	695.5	622.7
58°	450.8	508.3	556.5	606.2	656.0	716.3	763.7	775.8	749.6	674.0	603.1
58.5°	435.1	492.3	540.4	589.0	637.6	695.9	741.3	752.3	726.1	652.0	583.5
59°	419.4	477.0	524.4	572.2	618.8	675.5	719.0	729.2	703.0	631.3	564.7
59.5°	403.8	460.9	507.5	555.3	600.7	655.6	697.1	706.5	680.6	610.5	545.9
60°	388.9	445.7	491.9	538.9	582.7	635.6	675.5	684.2	659.1	590.6	527.5
60.5°	373.6	430.0	475.8	522.0	565.1	616.4	654.0	661.8	636.8	570.6	509.1
61°	358.7	415.1	460.5	506.0	547.9	597.2	633.2	640.3	616.0	551.0	491.9
61.5°	344.2	400.2	444.9	489.9	531.4	578.4	612.9	619.1	594.9	531.8	474.6
62°	330.1	385.7	430.4	474.6	514.2	560.0	592.5	598.4	575.3	513.8	457.8
62.5°	315.6	371.3	415.5	459.0	498.1	541.6	572.5	577.6	554.9	495.0	441.0
63°	302.3	357.2	401.0	444.1	481.7	523.6	553.0	557.7	534.9	477.0	424.9
63.5°	289.0	343.1	386.5	429.6	466.0	506.0	533.8	538.1	516.2	459.4	408.8
64°	276.1	329.0	373.2	415.1	450.4	488.7	515.0	519.3	497.4	443.3	393.6
64.5°	262.8	315.3	359.1	400.6	435.5	471.9	496.6	500.5	478.9	426.1	378.7
65°	250.6	302.3	345.8	386.9	420.2	455.4	478.9	482.1	461.7	410.0	364.2
65.5°	238.1	289.4	332.5	373.6	405.7	439.0	461.3	464.5	443.7	393.6	349.7
66°	226.0	276.5	320.0	360.3	391.6	422.9	444.1	446.8	425.3	378.3	336.0



TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	193.1	239.7	282.4	321.1	350.9	377.5	395.5	397.1	373.2	334.4	295.7
68°	183.3	228.3	271.0	309.0	338.4	362.6	379.5	380.7	356.8	320.0	283.5
68.5°	174.3	217.0	259.3	296.8	325.8	348.5	364.6	365.0	341.1	305.5	271.4
69°	165.7	206.0	247.9	285.1	312.9	335.2	350.1	350.1	325.4	291.0	259.6
69.5°	158.2	195.4	236.9	273.3	300.4	321.9	336.4	335.6	309.8	277.3	248.3
70°	153.5	185.2	226.0	262.0	287.8	309.0	322.7	321.1	294.1	264.3	236.9
70.5°	150.8	175.4	215.8	250.6	275.7	295.7	309.0	307.0	280.8	251.4	226.4
71°	148.0	166.8	205.6	240.1	264.3	283.1	295.3	292.5	267.5	239.3	215.8
71.5°	145.3	158.6	196.2	229.1	253.0	271.0	282.7	278.8	253.8	227.5	205.6
72°	142.5	151.9	186.8	218.9	242.0	259.6	270.2	265.9	241.2	216.2	195.8
72.5°	139.0	147.2	177.8	209.1	231.4	247.9	258.1	253.4	229.1	205.2	186.0
73°	135.5	143.7	169.6	199.3	220.9	236.9	247.1	241.2	217.3	194.2	176.6
73.5°	132.4	140.6	161.3	189.9	210.7	226.0	235.4	229.5	206.0	183.7	167.6
74°	128.8	137.5	153.9	180.9	200.9	216.2	224.4	218.1	195.4	173.5	158.6
74.5°	125.7	134.7	146.5	172.3	191.5	206.0	213.8	207.2	184.8	163.7	150.0
75°	121.8	131.6	139.8	164.1	182.1	196.2	204.0	196.6	174.7	154.3	141.8
75.5°	117.9	128.5	135.1	155.9	173.1	186.4	193.5	186.4	164.9	144.9	133.5
76°	113.6	124.9	130.4	148.4	164.9	177.4	184.1	176.2	155.1	135.9	125.3
76.5°	108.9	121.0	125.7	141.0	156.3	168.8	174.7	166.4	146.1	126.9	117.5
77°	104.6	117.1	120.6	134.7	148.4	160.2	165.7	156.6	136.7	118.3	110.0
77.5°	99.9	113.2	117.1	128.8	141.0	151.9	156.6	147.6	127.7	109.7	102.6
78°	95.2	108.9	114.0	123.0	133.5	143.7	148.0	138.6	118.7	101.4	94.8
78.5°	90.1	105.0	110.8	117.1	126.5	136.3	139.8	130.0	109.7	93.2	87.7
79°	85.0	100.3	107.3	111.2	119.8	128.8	131.6	121.4	100.6	85.0	80.7
79.5°	79.9	95.9	103.8	106.1	113.2	121.8	123.8	112.8	92.0	77.1	73.6
80°	74.8	91.2	99.9	101.0	106.9	114.7	116.3	104.6	83.4	69.7	67.0
80.5°	69.3	86.5	95.9	96.7	101.0	108.1	108.9	97.1	74.8	61.9	60.7
81°	63.8	81.5	92.0	92.4	95.2	101.4	101.4	88.9	66.2	54.8	54.4
81.5°	58.4	76.8	87.7	88.1	89.7	95.2	94.4	81.5	57.6	47.8	48.2
82°	52.9	71.3	83.4	83.8	84.2	88.9	86.9	74.0	49.0	41.9	42.3
82.5°	47.4	66.2	79.1	79.9	79.1	83.0	79.9	67.0	42.3	36.4	37.2
83°	41.1	60.7	74.8	75.6	74.0	76.8	73.2	59.9	35.2	30.9	32.1
83.5°	35.2	55.2	70.1	72.1	68.9	70.9	66.6	53.7	28.2	25.5	27.0
84°	29.4	49.7	65.8	68.1	63.8	65.0	60.3	47.0	21.5	20.0	21.9
84.5°	23.9	44.3	61.1	64.2	59.1	59.5	54.4	41.5	14.5	16.1	17.2
85°	18.8	38.8	56.8	60.3	54.4	54.0	48.6	36.0	11.7	12.5	12.5
85.5°	15.3	33.7	52.5	56.4	50.1	49.0	43.1	30.9	9.4	9.0	9.0
86°	13.3	29.4	48.2	52.1	45.8	43.9	38.4	25.5	7.8	5.9	5.5
86.5°	11.0	25.8	43.9	47.8	41.5	39.2	33.3	20.0	6.3	3.1	3.1
87°	9.0	22.7	39.6	43.1	37.6	34.5	28.2	15.7	4.7	1.6	1.2
87.5°	7.0	19.6	34.9	38.8	33.3	29.8	23.1	11.4	3.9	0.8	0.0
88°	5.1	16.4	30.5	34.1	29.0	25.1	18.0	7.8	2.3	0.4	0.0
88.5°	3.1	13.3	25.8	29.8	25.1	20.4	13.7	4.7	1.2	0.0	0.0



TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	4.3	12.9	14.9	11.7	8.6	3.1	0.4	0.0	0.0	0.0



TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2233.8	2233.8	2233.8	2233.8	2233.8	2233.8
0.5°	2233.0	2233.8	2230.3	2227.9	2227.1	2227.5
1°	2233.0	2231.8	2226.7	2222.8	2221.2	2221.6
1.5°	2232.6	2229.5	2222.4	2217.3	2215.4	2216.2
2°	2231.8	2226.7	2218.1	2211.8	2209.1	2209.9
2.5°	2230.6	2224.0	2213.4	2206.4	2202.8	2203.6
3°	2229.5	2220.9	2208.3	2199.7	2196.2	2196.6
3.5°	2227.5	2217.3	2203.2	2193.4	2189.1	2189.9
4°	2225.9	2213.4	2197.8	2186.4	2181.3	2182.5
4.5°	2223.6	2209.5	2191.5	2179.3	2173.5	2175.0
5°	2220.9	2204.8	2185.6	2171.9	2165.6	2167.2
5.5°	2218.1	2200.1	2179.0	2164.1	2157.4	2159.0
6°	2215.0	2195.4	2171.9	2155.8	2148.8	2150.4
6.5°	2211.5	2189.9	2165.2	2147.6	2139.8	2141.7
7°	2207.5	2184.4	2157.8	2139.0	2130.4	2132.7
7.5°	2203.6	2178.6	2150.0	2130.0	2121.0	2123.3
8°	2199.3	2172.3	2142.1	2120.6	2110.8	2113.6
8.5°	2194.6	2166.0	2133.5	2111.2	2100.6	2103.8
9°	2189.9	2159.0	2125.3	2101.4	2090.4	2093.6
9.5°	2184.4	2151.9	2115.9	2091.2	2079.5	2082.6
10°	2179.0	2144.5	2106.9	2080.7	2068.5	2072.0
10.5°	2173.5	2137.1	2097.5	2070.1	2057.6	2060.7
11°	2167.2	2128.8	2087.7	2059.1	2045.8	2049.7
11.5°	2160.9	2121.0	2077.9	2048.2	2034.1	2037.6
12°	2154.3	2112.0	2067.3	2036.4	2021.9	2025.8
12.5°	2147.6	2103.4	2056.8	2024.3	2009.8	2013.7
13°	2140.2	2094.4	2045.8	2012.5	1997.2	2001.2
13.5°	2132.7	2085.0	2034.8	2000.0	1983.9	1988.6
14°	2124.9	2075.2	2023.1	1987.5	1971.4	1975.7
14.5°	2117.1	2065.4	2011.7	1974.5	1958.1	1962.4
15°	2108.9	2055.2	1999.6	1961.6	1944.4	1949.1
15.5°	2100.2	2044.2	1987.1	1947.9	1930.7	1935.4
16°	2091.2	2033.7	1974.5	1934.6	1916.6	1921.7
16.5°	2082.2	2023.1	1962.0	1920.9	1902.5	1907.2
17°	2072.8	2011.3	1949.1	1906.8	1887.6	1893.1
17.5°	2063.4	1999.6	1935.4	1892.3	1872.7	1878.6
18°	2053.2	1987.8	1922.1	1877.8	1858.2	1864.1
18.5°	2043.5	1975.7	1908.0	1862.9	1842.9	1848.8
19°	2032.9	1963.2	1893.9	1848.0	1827.7	1833.5
19.5°	2022.3	1950.6	1879.4	1832.4	1812.0	1818.7
20°	2011.3	1936.9	1864.5	1817.1	1796.7	1803.4
20.5°	2000.0	1923.6	1849.6	1801.4	1781.1	1787.3
21°	1987.8	1909.5	1834.3	1785.4	1765.0	1771.7

TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1951.4	1866.8	1786.6	1736.0	1715.7	1723.1
23°	1938.1	1851.2	1770.1	1719.2	1699.2	1707.1
23.5°	1924.8	1836.3	1753.3	1702.0	1682.4	1690.2
24°	1910.7	1820.2	1736.4	1684.7	1665.2	1673.4
24.5°	1897.0	1804.2	1719.2	1667.1	1647.9	1656.5
25°	1882.1	1787.3	1701.6	1649.5	1630.3	1639.7
25.5°	1867.6	1771.3	1684.3	1631.9	1613.1	1622.5
26°	1852.0	1754.8	1665.9	1613.9	1595.4	1605.6
26.5°	1836.7	1738.0	1648.7	1595.4	1577.4	1588.0
27°	1821.0	1720.0	1629.9	1577.4	1559.8	1570.8
27.5°	1805.0	1702.7	1611.9	1559.0	1541.8	1553.2
28°	1788.5	1684.7	1592.7	1540.2	1523.4	1535.5
28.5°	1772.5	1667.1	1574.7	1521.8	1505.0	1517.9
29°	1755.2	1649.1	1555.5	1503.0	1487.0	1499.9
29.5°	1738.0	1630.7	1537.1	1484.2	1468.6	1481.9
30°	1721.2	1611.9	1517.5	1465.4	1450.2	1464.3
30.5°	1703.9	1593.1	1498.3	1446.2	1431.4	1445.8
31°	1685.9	1574.3	1478.7	1427.1	1413.0	1427.4
31.5°	1667.5	1555.1	1459.6	1407.9	1394.2	1409.4
32°	1649.1	1535.5	1440.0	1388.3	1375.4	1391.4
32.5°	1630.3	1516.3	1420.0	1369.9	1356.2	1373.0
33°	1611.5	1496.8	1400.4	1349.9	1337.8	1354.6
33.5°	1591.9	1477.2	1380.8	1330.7	1318.6	1336.2
34°	1572.3	1456.8	1361.3	1310.7	1299.8	1317.8
34.5°	1552.8	1436.4	1341.3	1291.2	1281.0	1299.0
35°	1532.8	1416.1	1320.5	1272.0	1261.8	1280.2
35.5°	1512.0	1396.1	1300.6	1252.4	1243.0	1261.8
36°	1491.3	1375.7	1281.0	1232.8	1223.8	1243.0
36.5°	1470.5	1354.6	1261.0	1213.6	1205.0	1224.6
37°	1449.0	1333.5	1240.6	1193.6	1186.2	1205.4
37.5°	1427.4	1312.7	1220.3	1174.1	1167.0	1187.0
38°	1405.1	1291.6	1199.9	1154.5	1147.8	1167.8
38.5°	1384.4	1270.4	1179.9	1135.3	1129.0	1149.8
39°	1361.7	1249.3	1160.0	1115.7	1110.2	1131.0
39.5°	1338.9	1227.7	1139.6	1096.9	1091.4	1111.8
40°	1316.6	1206.2	1119.2	1076.9	1071.9	1092.6
40.5°	1293.9	1184.6	1098.9	1057.8	1053.4	1074.6
41°	1271.2	1163.5	1078.9	1038.2	1034.7	1055.0
41.5°	1248.5	1142.0	1058.5	1019.4	1015.9	1036.6
42°	1225.8	1120.8	1038.6	1000.6	996.7	1017.8
42.5°	1203.0	1099.7	1018.6	981.0	978.6	999.4
43°	1179.2	1078.1	999.0	962.2	960.2	980.6
43.5°	1156.1	1056.6	978.6	943.0	941.1	962.2

TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1086.3	992.7	919.9	887.0	885.8	905.8
45.5°	1063.6	972.4	900.7	868.2	867.4	888.2
46°	1039.7	951.6	881.5	850.2	849.4	869.4
46.5°	1017.0	930.5	862.3	831.8	831.0	851.0
47°	993.5	909.7	842.8	813.8	813.4	832.6
47.5°	970.4	889.0	823.6	795.4	795.4	814.6
48°	947.3	868.6	804.8	777.0	777.4	796.2
48.5°	924.6	847.8	785.6	759.3	759.3	778.1
49°	902.3	827.9	767.6	741.7	741.7	760.1
49.5°	879.6	807.9	748.8	723.3	724.5	742.5
50°	856.5	787.5	730.0	705.7	707.3	724.1
50.5°	834.1	767.6	711.6	688.5	689.2	706.5
51°	813.0	747.6	693.9	671.2	672.0	688.9
51.5°	790.7	728.0	676.3	653.2	655.2	671.2
52°	769.1	708.8	658.3	637.2	638.3	654.0
52.5°	747.6	689.6	640.7	619.9	621.5	636.8
53°	726.8	670.1	623.8	603.1	604.7	619.1
53.5°	705.7	651.6	606.6	586.2	587.8	601.1
54°	686.1	632.5	589.8	570.2	571.4	584.3
54.5°	665.7	614.4	573.3	554.1	555.3	567.1
55°	645.8	596.0	556.9	538.1	539.3	550.2
55.5°	625.8	578.8	540.8	522.4	523.2	533.4
56°	607.0	560.8	524.8	507.1	507.1	516.5
56.5°	588.2	544.3	509.5	491.9	491.5	499.7
57°	569.8	526.7	493.8	476.6	475.8	483.3
57.5°	551.8	510.3	478.6	461.7	460.1	467.2
58°	533.8	493.8	463.7	447.2	445.7	450.8
58.5°	516.2	478.2	448.8	432.7	430.0	435.1
59°	498.9	462.1	434.7	419.0	415.5	419.4
59.5°	482.1	447.2	420.2	404.9	400.6	403.8
60°	465.6	431.6	406.1	391.6	386.5	388.9
60.5°	449.2	417.1	392.4	377.5	372.0	373.6
61°	433.9	402.6	378.7	364.6	358.3	358.7
61.5°	418.2	388.5	365.8	351.7	344.6	344.2
62°	403.4	374.8	352.5	339.1	331.7	330.1
62.5°	388.5	361.1	339.1	326.2	318.4	315.6
63°	374.0	347.8	326.6	313.7	305.9	302.3
63.5°	360.3	335.2	314.1	301.5	293.3	289.0
64°	346.6	321.9	301.9	289.4	281.2	276.1
64.5°	333.7	310.2	289.8	277.7	269.4	262.8
65°	321.1	298.0	278.4	265.9	258.1	250.6
65.5°	308.2	286.3	266.7	254.6	246.7	238.1
66°	295.3	274.5	255.3	243.2	235.8	226.0



TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	260.4	242.0	223.6	211.5	203.2	193.1
68°	249.1	231.4	213.8	201.7	192.7	183.3
68.5°	238.5	221.3	204.0	192.3	182.5	174.3
69°	227.9	211.5	194.6	183.3	172.7	165.7
69.5°	217.7	201.7	185.6	174.3	163.3	158.2
70°	207.9	192.7	177.0	166.0	154.7	153.5
70.5°	198.5	183.7	168.4	158.6	147.2	150.8
71°	188.8	175.1	160.2	151.2	141.4	148.0
71.5°	179.8	166.4	152.7	144.1	138.6	145.3
72°	171.1	158.2	145.3	138.6	135.5	142.5
72.5°	162.9	150.4	140.6	133.1	132.8	139.0
73°	154.3	142.9	133.9	127.7	129.6	135.5
73.5°	146.5	136.3	127.3	122.6	126.5	132.4
74°	139.0	129.6	120.6	117.1	122.6	128.8
74.5°	131.6	123.0	114.0	113.2	119.1	125.7
75°	124.1	116.3	108.5	109.3	115.1	121.8
75.5°	117.5	109.3	103.4	105.7	110.8	117.9
76°	110.4	103.4	98.3	102.2	106.5	113.6
76.5°	103.8	97.5	93.2	98.7	102.2	108.9
77°	97.5	91.6	88.9	94.8	97.5	104.6
77.5°	91.2	86.2	84.2	90.5	93.2	99.9
78°	85.0	80.7	79.9	86.5	88.5	95.2
78.5°	78.7	75.2	75.2	82.2	83.4	90.1
79°	72.8	70.1	70.9	77.9	78.3	85.0
79.5°	67.0	64.6	67.0	73.6	73.2	79.9
80°	61.5	59.9	63.1	68.9	67.7	74.8
80.5°	56.0	55.2	59.1	64.6	62.7	69.3
81°	50.5	50.5	55.2	59.9	57.6	63.8
81.5°	45.4	46.2	51.3	55.2	52.1	58.4
82°	40.7	41.5	47.0	50.9	47.0	52.9
82.5°	36.0	37.2	42.7	46.2	41.9	47.4
83°	30.9	33.3	38.0	41.9	36.8	41.1
83.5°	26.2	29.0	33.7	37.6	32.1	35.2
84°	21.5	24.7	29.0	33.3	27.8	29.4
84.5°	16.8	20.4	24.3	29.0	23.9	23.9
85°	12.5	16.1	19.6	24.3	20.8	18.8
85.5°	8.6	12.1	14.5	19.6	17.6	15.3
86°	5.1	8.2	11.0	14.9	14.5	13.3
86.5°	2.0	4.3	7.4	11.4	11.7	11.0
87°	0.0	0.8	3.9	7.8	9.0	9.0
87.5°	0.0	0.0	0.4	3.9	5.9	7.0
88°	0.0	0.0	0.0	0.4	3.1	5.1
88.5°	0.0	0.0	0.0	0.4	0.8	3.1



TEST NUMBER: P776246

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRH-HCD41TRLWW-4000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.4	0.4	0.0



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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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Scaled Data Report





21.5°	1755.6	1806.1	1864.9	1940.1	2022.3	2098.3	2150.8	2173.5	2166.4	2123.0	2060.7
22°	1739.6	1790.9	1850.8	1927.1	2010.6	2088.9	2142.5	2166.0	2158.6	2114.3	2050.5



44°	943.0	1003.3	1060.5	1140.4	1238.3	1355.8	1453.3	1502.2	1482.7	1377.3	1260.2
44.5°	925.0	984.5	1041.3	1120.4	1217.1	1332.7	1429.0	1477.2	1456.8	1351.5	1235.2



66.5°	214.6	263.6	307.0	347.0	377.5	407.3	427.3	430.0	407.3	363.4	322.7
67°	203.6	251.4	294.5	334.4	363.8	392.4	411.2	413.5	390.4	348.9	309.4



89°	1.2	10.2	20.8	24.7	20.8	16.4	9.4	2.3	0.4	0.0	0.0
89.5°	0.4	7.4	16.1	20.0	16.1	12.1	5.9	1.2	0.0	0.0	0.0

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21.5°	1975.7	1895.8	1818.7	1769.3	1748.6	1755.6
22°	1964.0	1881.3	1802.2	1752.9	1732.5	1739.6

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44°	1132.6	1035.4	959.5	924.6	922.6	943.0
44.5°	1110.2	1014.3	939.5	905.4	904.2	925.0



66.5°	283.5	263.2	244.8	232.6	224.4	214.6
67°	271.8	252.2	233.8	222.0	213.8	203.6

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89°	0.0	0.0	0.0	0.4	0.4	1.2
89.5°	0.0	0.0	0.0	0.4	0.4	0.4

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Scaled Data Report



(END OF REPORT)