

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: P776331

Luminaire Tested: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776331  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2310613A001)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K  
Description: 4 INCH SQUARE MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

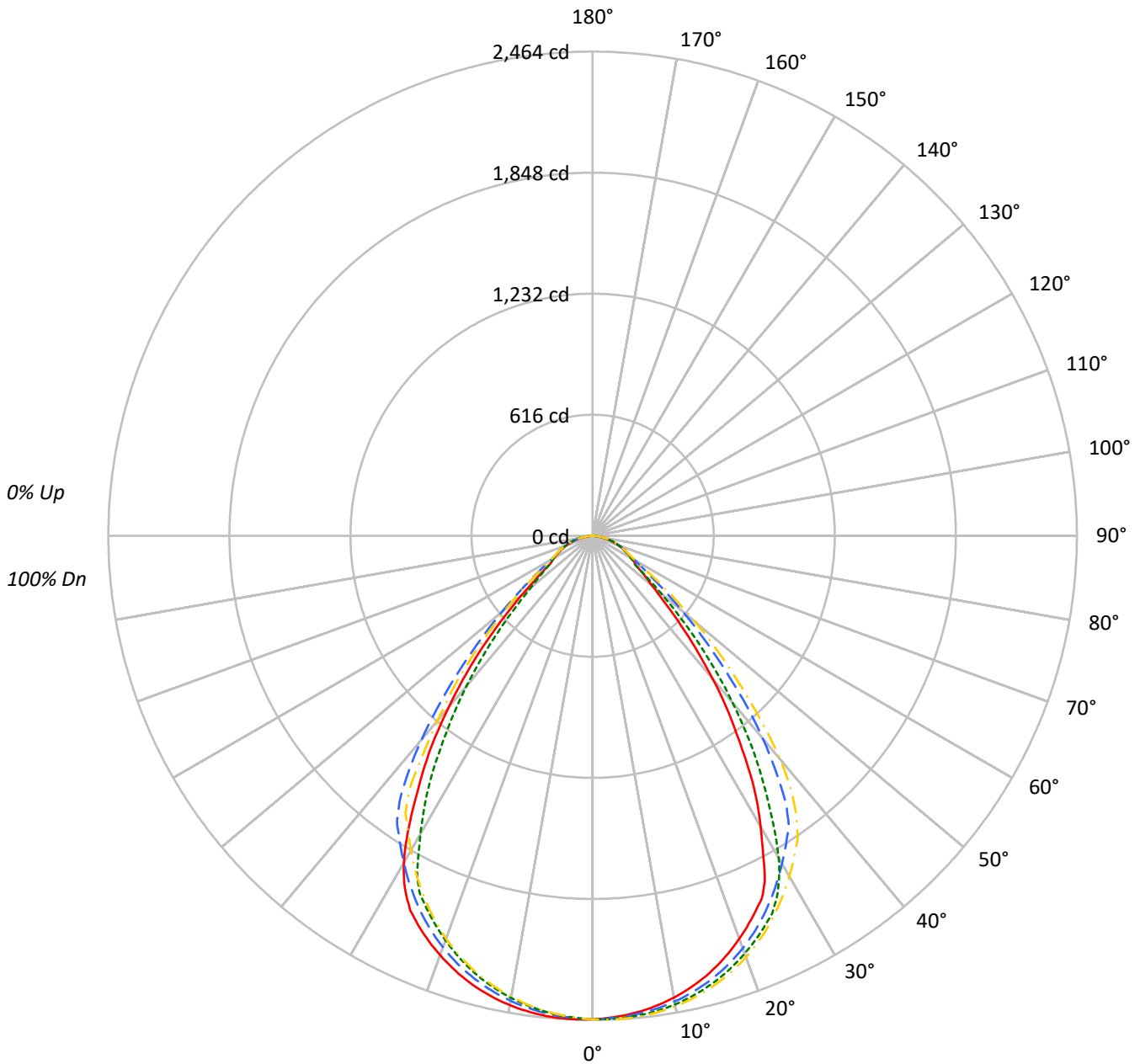
Lumens per Lamp: N/A  
Luminaire Lumens: 4068.3 lumens  
Efficiency: N/A  
Efficacy: 105.7 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.13 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (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	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	97	92	88	101	96	91	86	92	88	85	89	86	83	86	83	81	79																			
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70																			
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63																			
5	84	73	66	61	82	72	65	60	70	64	60	69	63	59	67	62	58	57																			
6	79	67	60	55	77	67	59	54	65	59	54	63	58	53	62	57	53	51																			
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47																			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43																			
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39																			
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	41	38	36																			

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

	0°	90°	180°	270°
0°	243152	243152	243152	243152
5°	241868	243545	243773	241987
10°	239476	243019	243450	239717
15°	235551	241271	241957	235991
20°	229515	237962	238824	230388
25°	222178	233400	234087	223072
30°	195111	216020	219238	199927
35°	160061	181044	184966	166154
40°	122758	142771	147068	128823
45°	86317	103608	107759	91894
50°	61047	69366	72918	63215
55°	48303	47700	50543	49320
60°	45270	43886	44657	45210
65°	42683	42122	42403	43689
70°	39390	40402	39939	42309
75°	35440	38266	36777	40825
80°	28062	35462	31876	38308
85°	13722	28806	19053	33796

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 145753 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	232.2	5.7
10°-20°	657.1	16.2
20°-30°	957.8	23.5
30°-40°	963.4	23.7
40°-50°	631.6	15.5
50°-60°	306.1	7.5
60°-70°	186.0	4.6
70°-80°	107.1	2.6
80°-90°	26.9	0.7
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°	1847.1	45.4
0°-40°	2810.6	69.1
0°-60°	3748.2	92.1
0°-90°	4068.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4068.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2460	2460	2460	2460	2460	
5°	2438	2455	2457	2439	2438	231
15°	2302	2358	2364	2306	2302	648
25°	2037	2140	2146	2045	2037	918
35°	1326	1500	1533	1377	1326	827
45°	618	741	771	657	618	486
55°	280	277	293	286	280	262
65°	182	180	181	187	182	181
75°	93	100	96	107	93	98
85°	12	25	17	30	12	18
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°	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0
0.5°	2459.6	2458.9	2459.3	2459.3	2460.8	2461.2	2462.0	2462.4	2461.6	2460.0	2458.9
1°	2458.5	2457.7	2458.9	2459.6	2461.2	2462.0	2462.8	2463.2	2462.0	2460.0	2458.5
1.5°	2456.5	2456.5	2458.5	2459.6	2461.2	2462.4	2463.6	2463.6	2462.4	2460.0	2457.7
2°	2454.6	2454.9	2457.7	2459.6	2461.2	2462.4	2463.6	2463.6	2462.4	2459.6	2456.5
2.5°	2452.6	2453.4	2456.5	2458.9	2460.8	2462.4	2463.6	2463.6	2462.4	2459.3	2455.3
3°	2449.9	2451.0	2454.9	2458.1	2459.6	2462.0	2463.2	2463.6	2461.6	2458.5	2453.8
3.5°	2447.5	2448.7	2453.4	2457.3	2458.9	2461.2	2462.8	2462.8	2460.8	2457.3	2451.8
4°	2444.8	2446.3	2451.4	2456.1	2457.7	2460.4	2462.0	2462.4	2460.0	2455.7	2450.2
4.5°	2441.2	2443.2	2449.1	2454.6	2456.5	2458.9	2461.2	2461.2	2458.9	2454.2	2447.9
5°	2437.7	2440.1	2446.3	2452.6	2454.6	2457.7	2459.6	2459.6	2456.9	2452.2	2444.8
5.5°	2434.2	2436.5	2443.6	2450.6	2452.6	2455.7	2458.1	2458.1	2455.3	2450.2	2442.0
6°	2430.3	2433.0	2440.8	2448.3	2450.2	2453.4	2456.1	2456.1	2453.0	2447.5	2438.9
6.5°	2426.0	2429.1	2437.7	2445.9	2447.5	2451.4	2453.8	2453.8	2450.2	2444.8	2435.4
7°	2420.9	2424.4	2434.2	2443.2	2444.4	2448.7	2451.4	2451.4	2447.9	2442.0	2431.5
7.5°	2415.8	2419.7	2430.3	2440.1	2441.2	2445.9	2448.7	2448.3	2444.8	2438.5	2427.5
8°	2410.7	2415.0	2425.6	2436.5	2437.7	2442.8	2445.5	2445.2	2441.6	2435.0	2423.2
8.5°	2404.8	2409.1	2421.7	2433.0	2434.2	2439.3	2442.0	2442.0	2438.1	2431.1	2418.5
9°	2399.0	2403.7	2417.0	2429.1	2430.3	2435.8	2438.5	2438.5	2434.2	2427.1	2413.8
9.5°	2392.7	2397.8	2411.9	2424.4	2426.0	2431.8	2434.6	2434.2	2429.9	2422.4	2408.7
10°	2386.0	2391.9	2406.4	2420.1	2421.3	2427.1	2430.7	2430.3	2425.6	2417.7	2403.3
10.5°	2379.0	2385.3	2400.9	2415.0	2416.2	2422.4	2426.0	2425.6	2420.9	2413.0	2397.4
11°	2371.9	2378.2	2395.0	2409.9	2411.1	2417.4	2421.3	2420.9	2416.2	2407.6	2391.1
11.5°	2364.5	2371.2	2388.8	2404.4	2405.2	2412.3	2416.2	2415.4	2410.7	2402.1	2384.9
12°	2356.3	2363.7	2382.1	2398.6	2399.3	2407.2	2411.1	2409.9	2404.8	2396.2	2378.2
12.5°	2348.1	2355.9	2375.1	2392.3	2393.1	2401.3	2405.2	2404.0	2399.0	2389.9	2371.2
13°	2339.4	2348.1	2368.0	2386.4	2386.8	2394.6	2399.3	2398.2	2392.7	2383.7	2364.1
13.5°	2330.8	2339.4	2361.0	2379.4	2380.2	2388.8	2393.1	2391.5	2386.0	2376.6	2356.3
14°	2321.8	2330.4	2352.8	2372.7	2373.1	2381.7	2386.4	2384.9	2379.0	2369.2	2348.4
14.5°	2312.0	2321.0	2344.9	2365.3	2365.7	2374.3	2379.4	2378.2	2371.9	2361.8	2340.2
15°	2301.9	2311.6	2336.3	2357.8	2357.8	2367.2	2372.3	2370.4	2364.5	2354.3	2331.6
15.5°	2291.3	2301.9	2327.7	2350.0	2350.0	2359.8	2364.9	2362.9	2356.3	2346.1	2322.6
16°	2280.7	2291.7	2318.3	2341.8	2341.4	2351.2	2357.1	2354.7	2348.1	2337.9	2313.6
16.5°	2269.4	2281.1	2308.9	2332.8	2332.4	2343.0	2348.8	2346.5	2339.4	2328.9	2303.8
17°	2258.0	2270.1	2299.5	2324.2	2323.4	2334.0	2340.2	2338.3	2330.8	2319.9	2294.0
17.5°	2245.9	2258.8	2289.3	2315.2	2314.0	2325.3	2331.2	2329.3	2321.0	2310.5	2283.8
18°	2234.1	2247.4	2278.8	2305.4	2304.2	2315.9	2321.8	2319.5	2311.2	2300.7	2273.3
18.5°	2221.2	2234.9	2268.2	2295.6	2294.4	2305.8	2312.4	2309.7	2301.9	2290.9	2262.3
19°	2208.7	2222.8	2256.8	2285.8	2283.8	2295.2	2302.6	2299.5	2291.7	2280.3	2251.3
19.5°	2195.4	2209.8	2245.5	2274.8	2273.3	2285.8	2292.5	2288.9	2281.5	2269.4	2240.0
20°	2182.0	2197.3	2233.7	2263.9	2262.3	2274.4	2281.5	2278.8	2270.5	2258.4	2227.9
20.5°	2168.7	2184.0	2221.2	2252.5	2251.0	2263.5	2270.9	2267.4	2259.2	2247.0	2215.3
21°	2155.0	2170.3	2208.7	2241.2	2239.2	2252.1	2259.6	2256.0	2247.8	2235.7	2203.2

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2111.2	2128.0	2169.1	2204.4	2203.6	2216.5	2223.5	2220.8	2212.2	2198.9	2163.6
23°	2096.3	2113.5	2154.6	2192.2	2190.7	2204.0	2211.0	2208.3	2199.7	2186.0	2149.5
23.5°	2081.4	2098.3	2140.1	2179.3	2177.7	2191.4	2198.1	2195.4	2187.5	2172.6	2135.1
24°	2065.4	2083.0	2125.7	2166.0	2164.8	2178.5	2184.8	2182.4	2174.6	2159.3	2120.6
24.5°	2051.7	2068.1	2110.8	2152.7	2151.5	2165.2	2170.7	2169.1	2160.9	2146.0	2105.7
25°	2037.2	2052.4	2095.1	2138.6	2140.1	2151.9	2156.6	2155.4	2146.4	2132.3	2090.0
25.5°	2013.7	2036.8	2079.5	2124.5	2124.5	2138.2	2142.5	2142.1	2133.1	2118.2	2074.8
26°	1987.8	2021.5	2063.4	2110.4	2103.3	2123.7	2127.6	2128.0	2119.8	2103.7	2058.3
26.5°	1963.6	2007.0	2047.4	2095.9	2085.3	2110.0	2112.7	2113.1	2095.9	2088.9	2042.3
27°	1927.2	1988.6	2030.9	2080.6	2064.6	2097.1	2097.5	2098.3	2077.5	2073.2	2025.8
27.5°	1888.8	1960.4	2014.1	2067.3	2041.1	2079.1	2082.2	2084.5	2057.1	2059.1	2009.0
28°	1850.8	1937.7	1996.8	2052.4	2014.9	2057.5	2065.8	2065.0	2033.6	2041.5	1991.8
28.5°	1814.0	1906.8	1979.6	2030.1	1987.8	2039.5	2050.1	2042.3	2008.6	2018.4	1974.9
29°	1778.4	1870.0	1962.4	2010.2	1958.5	2017.2	2034.0	2024.3	1981.2	1999.2	1956.9
29.5°	1743.9	1832.8	1945.2	1990.2	1927.2	1992.9	2017.6	2002.3	1952.2	1978.1	1939.7
30°	1709.5	1795.6	1927.2	1967.1	1892.7	1967.5	2000.8	1977.7	1920.9	1954.2	1921.7
30.5°	1675.8	1759.2	1909.5	1942.0	1855.9	1940.5	1984.3	1952.2	1887.6	1928.3	1903.7
31°	1642.1	1723.6	1891.5	1914.6	1817.9	1910.7	1967.5	1925.2	1851.6	1901.7	1885.6
31.5°	1607.7	1689.9	1873.1	1886.8	1778.0	1880.9	1950.3	1895.8	1812.4	1872.7	1867.6
32°	1570.1	1655.8	1855.5	1856.7	1737.6	1848.1	1932.6	1864.5	1772.1	1842.6	1849.2
32.5°	1533.7	1622.9	1836.7	1825.0	1696.5	1812.0	1915.4	1832.0	1731.8	1809.3	1830.4
33°	1494.1	1588.9	1819.5	1789.7	1655.8	1774.8	1897.4	1796.4	1691.4	1774.8	1812.0
33.5°	1452.6	1554.8	1802.6	1755.3	1615.9	1736.1	1880.6	1759.2	1649.9	1737.6	1793.6
34°	1409.1	1518.4	1785.4	1717.7	1576.7	1696.5	1863.7	1720.4	1609.2	1699.7	1777.6
34.5°	1368.4	1481.6	1758.0	1678.1	1538.4	1657.0	1841.8	1680.5	1570.5	1660.5	1756.8
35°	1326.5	1443.2	1727.1	1638.6	1500.4	1617.4	1813.6	1639.8	1532.9	1619.8	1725.9
35.5°	1287.0	1402.9	1700.5	1599.4	1462.8	1578.3	1788.9	1601.4	1496.1	1580.6	1697.7
36°	1247.8	1361.4	1666.8	1560.7	1425.2	1540.3	1764.3	1562.2	1458.1	1542.3	1671.9
36.5°	1211.0	1320.3	1628.4	1522.3	1386.8	1502.3	1734.5	1523.9	1419.3	1503.9	1637.4
37°	1173.8	1279.9	1589.3	1483.5	1347.7	1464.7	1704.0	1485.9	1382.5	1466.3	1598.7
37.5°	1137.8	1242.7	1548.5	1446.7	1307.7	1428.7	1671.5	1449.5	1343.0	1430.3	1559.5
38°	1101.8	1203.6	1508.6	1409.9	1267.0	1390.7	1637.0	1412.3	1302.6	1393.5	1519.6
38.5°	1065.4	1167.6	1468.3	1373.5	1226.7	1353.9	1602.2	1376.6	1261.1	1357.9	1478.1
39°	1027.8	1131.9	1428.7	1337.1	1187.1	1316.7	1563.8	1338.7	1220.4	1321.4	1437.7
39.5°	989.8	1097.1	1388.8	1299.9	1146.8	1278.0	1524.3	1301.1	1180.5	1285.0	1395.8
40°	951.4	1060.3	1347.3	1263.5	1106.5	1239.6	1482.8	1261.9	1139.8	1247.4	1353.9
40.5°	913.9	1025.8	1305.8	1225.9	1067.7	1200.5	1440.1	1223.2	1100.6	1208.7	1310.9
41°	877.0	989.8	1263.5	1187.5	1030.9	1160.9	1395.1	1183.2	1061.9	1169.9	1268.6
41.5°	841.8	954.2	1222.0	1149.6	992.9	1122.9	1349.2	1144.1	1025.4	1131.5	1226.3
42°	806.6	917.8	1179.3	1111.2	956.1	1085.3	1303.0	1105.3	987.9	1093.6	1183.6
42.5°	773.7	882.1	1136.6	1073.6	919.3	1047.8	1257.2	1066.5	951.4	1056.8	1141.7
43°	741.2	846.5	1093.6	1036.4	882.5	1010.6	1213.0	1029.7	915.8	1020.0	1101.0
43.5°	709.5	812.1	1050.9	1000.8	846.5	974.5	1168.7	993.3	879.0	984.7	1057.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	617.5	714.9	929.1	895.4	741.2	869.2	1042.7	886.8	770.9	881.4	938.5
45.5°	588.9	684.4	890.4	861.8	706.7	833.2	1003.9	852.8	736.9	848.9	899.8
46°	561.5	654.3	853.9	828.1	673.8	799.5	965.9	817.5	702.8	814.4	863.0
46.5°	535.2	624.9	818.7	794.8	641.3	766.6	927.2	783.1	670.3	780.7	826.5
47°	509.8	596.3	784.6	761.9	610.8	733.0	890.4	748.6	639.0	747.8	792.1
47.5°	487.1	568.5	751.4	729.4	581.0	700.9	853.6	714.9	608.8	715.7	758.0
48°	465.9	541.9	718.1	697.3	552.5	669.1	816.4	683.2	579.5	684.0	724.3
48.5°	446.7	516.0	686.0	665.2	525.8	637.4	781.5	651.9	552.1	653.5	691.8
49°	429.1	491.8	655.4	635.1	499.6	607.7	745.1	621.8	524.7	623.7	660.5
49.5°	412.3	469.5	625.7	606.1	474.9	577.5	710.3	591.2	499.2	595.5	630.4
50°	397.0	447.9	596.3	577.9	451.1	549.7	677.0	563.4	474.2	567.3	601.4
50.5°	383.3	428.3	567.7	550.5	428.0	521.9	644.1	535.2	450.3	540.7	572.4
51°	370.4	410.7	540.7	525.1	406.4	496.1	613.1	509.0	428.0	514.9	545.8
51.5°	357.9	394.3	514.9	499.2	386.8	471.4	583.0	483.9	407.2	490.6	520.0
52°	346.1	379.8	490.2	475.3	368.0	447.9	554.4	460.4	387.6	467.1	495.3
52.5°	334.4	365.7	467.5	451.4	352.4	424.8	525.8	436.2	368.8	443.6	471.8
53°	323.4	352.8	445.2	428.7	336.7	403.3	500.0	413.9	352.0	422.5	449.1
53.5°	311.7	340.6	424.4	406.4	321.1	382.5	474.2	393.5	337.1	401.3	428.0
54°	300.7	329.3	404.1	386.1	305.4	363.3	450.3	373.9	322.6	381.4	407.6
54.5°	290.1	317.9	385.7	366.5	290.1	347.7	426.8	355.1	307.7	362.6	389.2
55°	280.3	307.0	368.0	348.1	276.8	331.6	405.6	339.5	293.3	347.3	371.6
55.5°	271.7	296.0	351.6	331.6	266.2	316.0	384.1	324.2	279.9	332.0	354.3
56°	265.5	285.4	335.9	315.6	258.0	299.9	364.1	308.9	268.6	316.8	340.2
56.5°	260.8	274.9	321.5	301.1	252.9	284.3	348.1	293.7	259.2	301.9	325.8
57°	256.5	265.9	308.1	287.4	248.2	270.9	331.6	279.9	252.9	286.6	311.3
57.5°	251.8	257.6	295.2	274.5	243.9	259.2	315.6	267.4	248.2	273.7	297.2
58°	247.5	252.2	283.9	262.3	239.6	249.8	299.5	256.8	243.9	261.9	285.8
58.5°	243.1	247.5	273.7	252.5	235.3	243.9	283.1	247.8	239.6	252.5	274.9
59°	238.4	242.8	263.9	246.3	230.6	238.8	270.9	242.0	234.9	245.1	264.7
59.5°	233.7	238.4	255.3	241.2	226.3	234.5	260.0	236.9	230.6	240.0	255.7
60°	229.0	234.1	247.1	236.5	222.0	230.2	250.2	232.6	225.9	235.3	247.1
60.5°	224.0	229.4	239.6	232.2	217.7	225.5	241.6	227.9	221.6	231.0	239.2
61°	219.7	224.7	232.6	227.5	213.4	221.2	234.1	223.6	216.9	226.7	232.2
61.5°	215.0	220.0	225.9	222.8	209.1	216.9	226.7	219.3	212.2	222.0	225.5
62°	210.3	215.3	220.0	218.5	205.2	212.6	220.0	214.6	207.9	217.7	219.3
62.5°	205.2	210.3	213.8	214.2	200.9	208.3	213.8	209.9	203.6	213.0	213.0
63°	200.9	205.6	208.3	209.9	196.6	203.6	207.9	205.6	198.9	208.3	207.5
63.5°	196.2	200.9	202.8	205.2	192.2	199.3	202.4	200.9	194.6	204.0	202.4
64°	191.5	196.2	198.1	200.9	188.3	195.0	196.9	196.2	190.3	199.3	197.3
64.5°	186.8	191.9	193.4	196.6	184.0	190.7	192.2	191.9	185.6	194.6	192.6
65°	182.5	186.8	189.1	192.2	180.1	186.8	187.9	187.2	181.3	190.3	187.9
65.5°	177.8	182.1	184.8	187.9	175.8	182.5	183.2	182.8	177.0	185.6	183.6
66°	173.1	177.8	180.1	183.6	171.9	178.1	178.9	178.1	172.7	181.3	179.3





TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	159.4	163.7	166.8	170.7	159.7	165.6	166.0	164.8	159.7	168.0	166.4
68°	155.0	159.0	162.5	166.4	155.8	161.3	161.3	160.5	155.4	163.7	162.1
68.5°	150.4	154.3	157.8	162.1	151.5	157.4	157.0	156.2	151.1	159.0	157.8
69°	146.0	150.0	153.5	157.8	147.6	153.1	152.7	151.9	146.8	154.7	153.1
69.5°	140.6	145.3	148.8	153.9	143.7	148.8	148.4	147.2	142.5	150.4	148.8
70°	136.3	142.1	144.5	149.6	139.8	144.9	143.7	142.9	138.2	146.0	144.5
70.5°	132.3	137.4	139.8	145.3	135.9	141.0	139.4	138.6	134.3	141.7	140.2
71°	128.0	132.7	135.5	141.7	131.9	136.6	135.1	134.3	130.0	137.4	135.9
71.5°	124.1	127.6	131.2	137.4	128.0	132.3	130.8	130.0	125.7	132.7	131.6
72°	119.4	122.9	126.9	133.5	124.1	128.4	126.5	125.7	121.4	128.4	127.2
72.5°	115.1	118.2	122.6	129.2	120.2	124.5	122.2	121.4	117.5	124.1	122.9
73°	110.4	113.9	118.2	125.3	115.9	120.6	117.9	117.1	113.2	119.8	118.6
73.5°	106.1	109.2	113.9	121.0	112.0	116.3	113.9	112.8	108.8	115.5	114.3
74°	101.4	104.9	109.6	117.1	108.5	112.4	109.6	108.5	104.9	111.2	110.0
74.5°	97.1	100.2	104.9	112.8	104.5	108.5	105.3	104.1	100.6	106.9	106.1
75°	92.8	95.5	100.6	108.8	100.2	104.1	101.4	99.8	96.3	102.6	101.8
75.5°	88.5	91.2	96.3	104.5	96.3	100.2	97.1	95.5	92.4	98.3	97.5
76°	83.8	86.5	92.0	100.6	92.4	96.3	92.8	91.2	88.1	94.0	93.2
76.5°	79.5	82.2	87.7	96.7	88.9	92.4	88.9	86.9	84.2	90.1	88.9
77°	75.2	77.5	83.4	92.4	85.0	88.5	85.0	82.6	79.9	85.7	84.6
77.5°	70.9	73.2	79.1	88.5	81.0	84.6	81.0	78.3	76.0	81.4	80.7
78°	66.6	68.5	75.2	84.2	77.1	80.3	76.7	74.0	72.0	77.1	76.3
78.5°	62.3	64.2	70.9	80.3	73.2	76.3	72.8	69.7	67.7	72.8	72.0
79°	57.9	59.5	67.0	76.0	69.7	72.4	68.9	65.4	63.8	68.5	68.1
79.5°	53.6	55.2	62.6	72.0	65.8	68.5	65.0	61.1	59.9	64.6	64.2
80°	49.3	50.9	58.7	68.1	62.3	64.6	61.1	57.2	56.0	60.3	60.3
80.5°	45.4	46.6	54.8	63.8	58.3	60.7	57.6	52.9	52.1	56.0	56.0
81°	41.1	41.9	50.9	59.9	54.8	56.8	53.6	48.9	48.2	51.7	52.5
81.5°	36.8	37.6	47.0	56.0	50.9	53.2	50.1	45.4	44.2	47.8	48.6
82°	32.5	33.7	43.1	52.1	47.4	49.3	46.2	41.5	39.9	43.5	44.6
82.5°	28.6	29.8	39.5	48.6	43.9	45.8	42.7	38.0	36.0	39.2	41.1
83°	24.3	26.2	36.0	44.6	40.3	41.9	39.2	34.5	32.5	35.6	37.6
83.5°	20.0	22.3	32.5	41.1	36.4	38.4	36.0	30.9	28.6	31.7	34.5
84°	16.1	19.2	29.0	37.2	32.9	34.5	32.5	27.4	24.7	27.8	31.3
84.5°	14.1	16.1	25.8	33.7	29.4	30.9	29.4	24.3	20.8	24.3	28.2
85°	12.1	13.7	22.7	29.8	25.4	27.4	25.8	20.8	16.8	20.4	25.1
85.5°	9.8	11.4	19.2	26.2	21.9	23.5	22.7	17.6	14.1	17.2	21.5
86°	7.8	9.4	16.1	22.3	18.4	20.0	19.6	15.3	11.7	14.9	18.8
86.5°	5.9	7.4	13.3	18.8	14.9	16.4	16.4	12.9	10.2	12.9	15.7
87°	4.3	5.1	10.2	15.3	11.4	12.9	13.3	10.6	8.6	11.0	12.5
87.5°	2.3	3.1	7.4	11.7	7.8	9.4	10.2	8.2	6.7	8.6	9.4
88°	0.8	1.2	4.3	8.6	4.7	5.9	7.0	6.3	5.1	6.7	6.7
88.5°	0.0	0.4	1.6	5.1	1.6	2.7	3.9	3.9	3.5	4.7	3.5



TEST NUMBER: P776331  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.4	0.4	0.0	0.0	0.0	0.4	0.4	0.0	0.4	0.4



TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2460.0	2460.0	2460.0	2460.0	2460.0	2460.0
0.5°	2457.3	2459.3	2459.3	2459.6	2460.0	2459.6
1°	2456.5	2458.1	2457.7	2458.1	2458.9	2458.5
1.5°	2454.9	2456.5	2455.7	2456.1	2456.9	2456.5
2°	2453.4	2454.9	2453.8	2453.8	2454.6	2454.6
2.5°	2451.4	2453.0	2451.4	2451.4	2452.2	2452.6
3°	2449.1	2450.6	2448.7	2448.7	2449.5	2449.9
3.5°	2446.3	2448.3	2446.3	2445.9	2446.7	2447.5
4°	2443.6	2445.2	2443.2	2442.8	2443.6	2444.8
4.5°	2440.5	2442.4	2439.7	2439.3	2440.1	2441.2
5°	2436.9	2438.9	2435.8	2435.8	2436.5	2437.7
5.5°	2433.4	2435.4	2431.8	2431.5	2432.6	2434.2
6°	2429.5	2431.1	2427.5	2427.1	2428.3	2430.3
6.5°	2425.2	2426.8	2423.2	2422.8	2423.6	2426.0
7°	2420.5	2422.1	2418.1	2417.7	2418.9	2420.9
7.5°	2415.4	2417.4	2413.0	2412.7	2413.4	2415.8
8°	2410.3	2411.9	2407.6	2407.2	2408.4	2410.7
8.5°	2404.8	2406.4	2401.7	2401.3	2402.5	2404.8
9°	2399.3	2400.5	2395.8	2395.0	2396.2	2399.0
9.5°	2393.1	2394.3	2389.6	2388.8	2389.9	2392.7
10°	2386.4	2388.4	2382.9	2381.7	2383.3	2386.0
10.5°	2379.8	2381.7	2375.9	2375.1	2375.9	2379.0
11°	2372.7	2374.3	2368.8	2367.6	2368.8	2371.9
11.5°	2365.7	2366.8	2361.0	2359.8	2361.4	2364.5
12°	2357.8	2359.4	2353.1	2352.0	2353.1	2356.3
12.5°	2350.0	2351.2	2344.9	2343.7	2344.5	2348.1
13°	2341.8	2343.0	2336.3	2335.1	2336.3	2339.4
13.5°	2332.8	2334.4	2327.7	2326.5	2327.3	2330.8
14°	2324.2	2325.3	2318.3	2317.1	2318.3	2321.8
14.5°	2314.8	2315.9	2308.9	2307.3	2308.1	2312.0
15°	2305.4	2306.2	2299.1	2297.5	2297.9	2301.9
15.5°	2295.2	2296.0	2288.5	2287.4	2287.4	2291.3
16°	2285.0	2285.8	2278.0	2276.8	2277.2	2280.7
16.5°	2274.1	2275.2	2267.4	2265.8	2266.2	2269.4
17°	2263.1	2263.9	2256.4	2254.9	2254.9	2258.0
17.5°	2251.7	2252.5	2244.7	2243.1	2242.7	2245.9
18°	2240.4	2240.4	2232.9	2231.4	2231.0	2234.1
18.5°	2227.9	2228.2	2220.4	2219.6	2218.5	2221.2
19°	2215.7	2216.1	2207.9	2206.7	2205.5	2208.7
19.5°	2203.2	2203.2	2195.0	2194.2	2192.6	2195.4
20°	2189.9	2190.3	2181.7	2180.9	2178.9	2182.0
20.5°	2176.6	2177.0	2168.3	2166.8	2165.2	2168.7
21°	2162.9	2163.2	2154.2	2153.5	2151.1	2155.0

TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2120.2	2121.0	2110.8	2108.8	2107.3	2111.2
23°	2105.3	2106.1	2095.9	2093.9	2092.4	2096.3
23.5°	2090.8	2090.8	2081.0	2077.5	2077.1	2081.4
24°	2075.5	2075.9	2065.4	2061.8	2061.4	2065.4
24.5°	2059.9	2060.3	2049.3	2045.4	2045.4	2051.7
25°	2043.8	2045.4	2033.6	2029.0	2029.0	2037.2
25.5°	2028.2	2031.7	2017.2	2011.3	2013.3	2013.7
26°	2012.5	2013.3	2000.8	1995.3	1996.5	1987.8
26.5°	1998.4	1985.5	1984.7	1976.9	1982.0	1963.6
27°	1982.4	1964.0	1970.2	1960.0	1966.3	1927.2
27.5°	1956.9	1933.4	1953.0	1941.6	1941.6	1888.8
28°	1931.5	1896.6	1927.2	1923.6	1916.2	1850.8
28.5°	1907.2	1859.4	1902.1	1905.2	1890.7	1814.0
29°	1873.5	1823.0	1877.8	1887.2	1855.9	1778.4
29.5°	1837.1	1786.6	1843.4	1867.6	1819.1	1743.9
30°	1800.7	1751.7	1808.1	1849.6	1781.1	1709.5
30.5°	1765.1	1715.7	1770.5	1830.8	1745.5	1675.8
31°	1730.2	1681.3	1735.7	1812.0	1709.8	1642.1
31.5°	1694.6	1646.4	1699.7	1792.9	1675.0	1607.7
32°	1660.1	1611.2	1665.6	1773.7	1641.7	1570.1
32.5°	1625.7	1574.4	1631.9	1754.9	1609.6	1533.7
33°	1591.6	1537.2	1597.9	1736.9	1576.3	1494.1
33.5°	1556.8	1498.4	1563.8	1720.8	1544.2	1452.6
34°	1520.3	1458.5	1530.1	1703.2	1510.2	1409.1
34.5°	1483.9	1418.2	1494.5	1674.2	1475.3	1368.4
35°	1446.7	1377.0	1458.1	1639.8	1437.7	1326.5
35.5°	1408.0	1335.9	1421.3	1613.9	1400.9	1287.0
36°	1368.8	1296.8	1382.5	1576.7	1361.0	1247.8
36.5°	1328.9	1257.2	1344.5	1530.5	1322.2	1211.0
37°	1289.7	1220.0	1305.4	1484.3	1281.5	1173.8
37.5°	1251.0	1182.4	1267.0	1438.5	1243.5	1137.8
38°	1213.4	1145.6	1228.3	1393.1	1205.9	1101.8
38.5°	1177.0	1109.2	1192.2	1349.6	1169.9	1065.4
39°	1139.8	1073.6	1155.4	1307.3	1134.7	1027.8
39.5°	1104.1	1036.0	1121.4	1266.6	1100.2	989.8
40°	1069.3	998.4	1086.1	1227.5	1066.5	951.4
40.5°	1035.2	962.0	1051.3	1189.9	1032.9	913.9
41°	999.2	924.8	1016.8	1153.1	998.8	877.0
41.5°	964.0	888.4	982.8	1116.3	963.6	841.8
42°	928.3	852.8	947.5	1080.3	928.7	806.6
42.5°	893.9	818.3	912.3	1045.4	894.3	773.7
43°	858.6	784.3	877.8	1009.4	859.4	741.2
43.5°	823.8	751.4	843.0	972.6	825.4	709.5

TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	726.7	657.4	744.7	862.6	729.0	617.5
45.5°	696.9	627.6	714.6	827.7	699.3	588.9
46°	666.0	598.3	684.4	794.0	669.5	561.5
46.5°	636.6	569.7	654.3	760.8	640.6	535.2
47°	608.1	542.7	625.7	729.4	612.4	509.8
47.5°	580.3	516.0	596.3	699.7	585.0	487.1
48°	552.5	492.6	568.5	671.5	557.9	465.9
48.5°	526.6	469.1	542.3	644.5	532.1	446.7
49°	500.8	448.3	516.8	617.5	507.4	429.1
49.5°	477.3	429.1	492.6	592.0	484.3	412.3
50°	453.8	411.1	469.5	566.9	462.8	397.0
50.5°	433.0	394.7	448.3	542.7	442.4	383.3
51°	413.5	380.2	428.0	519.2	424.0	370.4
51.5°	395.5	366.5	410.3	496.1	406.8	357.9
52°	379.0	354.0	394.3	474.2	391.1	346.1
52.5°	364.1	341.8	378.6	453.0	376.7	334.4
53°	350.4	330.1	364.5	433.0	363.0	323.4
53.5°	338.7	318.7	351.2	413.9	350.0	311.7
54°	327.3	307.4	338.3	395.8	337.9	300.7
54.5°	316.0	296.8	327.3	378.6	326.2	290.1
55°	304.2	286.2	315.6	362.6	315.6	280.3
55.5°	292.9	276.0	304.2	347.3	304.2	271.7
56°	282.7	267.4	293.7	333.2	293.7	265.5
56.5°	272.1	260.4	283.1	319.9	283.1	260.8
57°	262.7	254.9	272.9	307.0	273.3	256.5
57.5°	254.5	250.6	263.5	295.2	264.3	251.8
58°	247.5	245.9	255.7	284.3	256.8	247.5
58.5°	242.4	241.6	249.4	274.1	251.0	243.1
59°	238.1	237.3	244.7	264.7	246.7	238.4
59.5°	233.7	233.4	240.0	255.3	242.0	233.7
60°	229.4	228.7	235.7	247.5	237.7	229.0
60.5°	225.1	224.7	231.4	240.0	232.6	224.0
61°	220.4	220.4	226.7	233.0	228.3	219.7
61.5°	216.1	216.1	222.4	226.3	223.6	215.0
62°	211.8	211.8	218.1	220.0	218.9	210.3
62.5°	207.5	207.5	213.4	214.2	213.8	205.2
63°	203.2	203.6	209.1	208.7	209.1	200.9
63.5°	198.9	199.3	204.8	203.6	204.4	196.2
64°	194.6	195.4	200.5	198.5	199.7	191.5
64.5°	190.3	191.1	195.8	194.2	195.0	186.8
65°	186.4	186.8	191.9	189.9	190.3	182.5
65.5°	182.1	182.8	187.5	185.2	185.6	177.8
66°	177.8	178.5	182.8	180.9	180.9	173.1



TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	165.2	166.4	170.3	168.0	166.8	159.4
68°	160.9	162.5	166.0	163.3	162.1	155.0
68.5°	157.0	158.2	161.7	158.6	157.4	150.4
69°	152.7	154.3	157.4	154.3	153.1	146.0
69.5°	148.4	150.4	153.1	149.6	148.4	140.6
70°	144.5	146.4	148.8	145.3	143.7	136.3
70.5°	140.2	141.7	144.9	141.3	139.4	132.3
71°	136.3	137.8	142.1	137.0	134.7	128.0
71.5°	131.9	134.3	137.8	132.3	130.4	124.1
72°	128.0	130.4	133.1	128.0	126.1	119.4
72.5°	123.7	126.5	128.8	123.7	121.4	115.1
73°	119.8	122.9	124.5	119.4	116.7	110.4
73.5°	115.9	118.6	120.2	114.7	112.4	106.1
74°	111.6	114.7	116.3	110.4	107.7	101.4
74.5°	107.7	110.8	112.0	106.1	103.0	97.1
75°	103.4	106.9	107.7	101.8	98.7	92.8
75.5°	99.5	103.0	103.8	97.5	94.0	88.5
76°	95.1	99.1	99.5	92.8	89.7	83.8
76.5°	91.2	94.8	95.5	88.5	85.0	79.5
77°	87.3	90.8	91.2	84.6	80.3	75.2
77.5°	83.0	86.9	87.3	80.3	76.0	70.9
78°	79.1	83.0	83.0	76.0	71.3	66.6
78.5°	74.8	79.1	79.1	71.7	67.0	62.3
79°	70.9	75.2	74.8	67.7	62.3	57.9
79.5°	67.0	71.3	70.9	63.4	57.9	53.6
80°	62.6	67.3	66.6	59.5	53.2	49.3
80.5°	58.7	63.4	62.6	55.6	48.9	45.4
81°	54.8	59.9	58.7	51.7	44.6	41.1
81.5°	51.3	56.0	54.8	47.8	40.7	36.8
82°	47.4	52.1	50.9	43.9	36.4	32.5
82.5°	43.5	48.6	47.0	40.3	32.9	28.6
83°	39.9	44.6	43.1	36.8	29.0	24.3
83.5°	36.0	40.7	39.2	33.3	25.4	20.0
84°	32.5	37.2	35.2	29.8	21.9	16.1
84.5°	28.6	33.7	31.7	26.6	18.8	14.1
85°	25.1	29.8	27.8	23.1	16.1	12.1
85.5°	21.1	26.2	23.9	20.0	13.7	9.8
86°	17.6	22.3	20.0	16.4	11.4	7.8
86.5°	13.7	18.8	16.4	13.3	9.0	5.9
87°	10.2	14.9	12.9	10.2	6.7	4.3
87.5°	6.7	11.7	9.8	7.4	4.3	2.3
88°	3.5	8.2	6.7	4.3	2.0	0.8
88.5°	1.2	4.7	3.5	1.2	0.8	0.0



TEST NUMBER: P776331

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-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

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

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - 135°-315°

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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2140.5	2156.2	2195.7	2229.4	2227.5	2240.4	2248.2	2244.7	2236.5	2223.2	2190.7
22°	2125.7	2142.1	2182.4	2216.9	2215.7	2228.2	2236.1	2232.9	2224.7	2211.4	2177.0



44°	678.5	777.6	1008.6	964.0	810.5	938.5	1124.5	957.3	841.8	948.7	1016.4
44.5°	647.6	746.3	968.7	929.1	775.6	903.7	1083.8	922.9	806.6	915.8	976.5



66.5°	168.8	173.1	175.8	179.3	167.6	173.8	174.6	173.8	168.4	177.0	175.0
67°	164.1	168.4	171.5	175.0	163.7	169.5	170.3	169.5	164.1	172.3	170.7



89°	0.0	0.4	0.4	2.0	0.4	0.8	1.6	2.0	2.0	2.7	1.6
89.5°	0.0	0.4	0.4	0.4	0.0	0.0	0.4	0.4	0.4	1.2	0.4



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21.5°	2149.2	2149.5	2140.1	2138.6	2136.6	2140.5
22°	2135.1	2135.1	2125.7	2124.1	2122.1	2125.7



44°	790.9	719.3	809.7	935.4	791.7	678.5
44.5°	759.2	687.9	777.6	899.0	760.4	647.6



66.5°	173.5	174.6	178.9	176.6	176.2	168.8
67°	169.5	170.7	174.6	172.3	171.5	164.1

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Scaled Data Report



89°	0.4	1.6	0.8	0.4	0.4	0.0
89.5°	0.0	0.4	0.4	0.4	0.4	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)