

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: P776474

Luminaire Tested: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776474
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B068)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4552.6 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

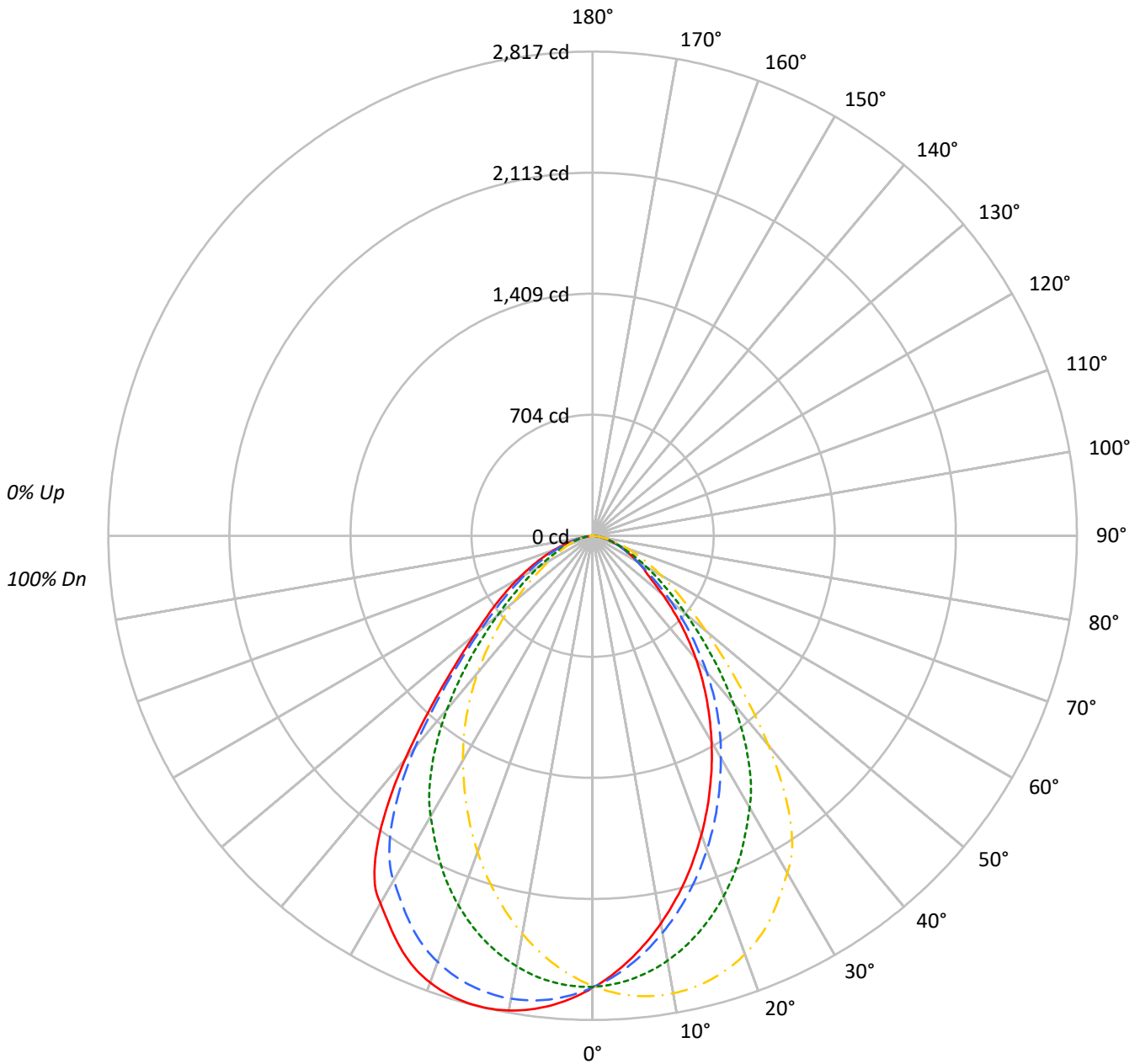
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78																			
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69																			
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40																			
9	64	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	80166	80166	80166	80166
5°	75912	79369	84046	79921
10°	70984	77816	86943	78867
15°	65674	75484	88927	76957
20°	60135	72465	89870	74245
25°	54454	68727	89101	70657
30°	48769	64397	87033	66460
35°	43025	58742	81239	60662
40°	37272	50767	67537	52528
45°	31216	41898	53021	43276
50°	25192	33699	42733	34440
55°	20658	27189	36046	27359
60°	18404	22000	30591	22049
65°	15893	17786	25580	17699
70°	13765	14202	20665	14095
75°	11820	11289	15724	11147
80°	9775	9055	10145	8703
85°	6866	6866	3013	6305

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 53021 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	246.3	5.4
10°-20°	682.5	15.0
20°-30°	964.4	21.2
30°-40°	1013.8	22.3
40°-50°	764.4	16.8
50°-60°	473.8	10.4
60°-70°	266.5	5.9
70°-80°	117.6	2.6
80°-90°	23.3	0.5
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°	1893.3	41.6
0°-40°	2907.1	63.9
0°-60°	4145.2	91.1
0°-90°	4552.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4552.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2626	2626	2626	2626	2626	
5°	2477	2590	2742	2608	2477	230
15°	2078	2388	2814	2435	2078	581
25°	1616	2040	2645	2098	1616	742
35°	1154	1576	2180	1628	1154	720
45°	723	970	1228	1002	723	558
55°	388	511	677	514	388	356
65°	220	246	354	245	220	220
75°	100	96	133	94	100	107
85°	20	20	9	18	20	24
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°	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8
0.5°	2617.2	2618.4	2618.0	2618.0	2622.1	2625.0	2627.9	2641.3	2644.2	2644.2	2638.5
1°	2603.3	2605.4	2607.4	2611.5	2620.5	2628.7	2636.0	2652.8	2656.5	2656.1	2647.5
1.5°	2589.0	2591.5	2596.4	2604.5	2618.4	2631.9	2644.2	2663.8	2669.2	2667.9	2656.9
2°	2573.9	2577.1	2584.5	2596.8	2616.0	2634.8	2651.6	2674.1	2681.0	2679.0	2665.1
2.5°	2558.7	2562.4	2572.6	2588.6	2612.7	2636.8	2658.1	2683.9	2692.1	2689.6	2673.7
3°	2543.2	2547.7	2559.6	2580.4	2609.0	2638.5	2664.7	2692.9	2703.5	2699.8	2680.6
3.5°	2527.3	2532.6	2547.3	2571.4	2605.4	2639.7	2670.8	2702.3	2713.7	2709.6	2687.6
4°	2510.9	2516.6	2533.8	2562.4	2600.5	2640.5	2676.1	2710.5	2723.5	2719.0	2694.1
4.5°	2494.1	2500.3	2519.9	2552.6	2595.5	2640.9	2681.4	2718.6	2732.9	2727.6	2700.6
5°	2477.0	2484.3	2505.6	2542.4	2589.8	2640.5	2685.5	2726.0	2742.4	2736.2	2706.0
5.5°	2459.8	2467.5	2491.7	2531.8	2584.1	2640.1	2689.6	2732.9	2750.9	2744.0	2711.3
6°	2442.2	2450.0	2476.5	2520.3	2577.6	2638.5	2693.3	2739.5	2758.7	2751.4	2715.8
6.5°	2424.2	2432.4	2461.4	2508.8	2570.6	2636.8	2696.1	2745.2	2766.1	2758.3	2720.3
7°	2405.4	2414.8	2445.5	2497.0	2563.6	2634.8	2698.6	2750.9	2773.4	2764.4	2723.5
7.5°	2387.4	2397.2	2429.9	2484.7	2555.5	2632.4	2700.6	2755.9	2780.0	2770.6	2726.8
8°	2368.2	2378.4	2413.6	2472.0	2547.3	2628.7	2702.3	2760.3	2786.1	2775.9	2729.3
8.5°	2349.0	2360.0	2397.2	2459.0	2538.7	2625.4	2703.1	2764.0	2791.4	2780.8	2731.3
9°	2328.9	2340.8	2379.6	2445.5	2529.3	2621.3	2703.5	2767.7	2796.3	2784.9	2733.4
9.5°	2309.7	2321.6	2362.9	2431.6	2519.9	2616.8	2703.5	2770.6	2800.8	2788.6	2734.2
10°	2289.7	2301.9	2345.3	2416.8	2510.1	2611.5	2703.1	2772.6	2804.5	2791.8	2735.0
10.5°	2269.2	2282.3	2327.3	2402.9	2499.4	2605.8	2702.3	2774.7	2807.8	2794.7	2735.0
11°	2248.8	2262.3	2308.9	2387.8	2488.4	2600.0	2700.6	2775.9	2810.6	2796.7	2734.6
11.5°	2228.3	2242.2	2290.9	2372.3	2477.4	2593.5	2699.0	2776.7	2813.1	2798.8	2733.4
12°	2207.5	2221.4	2272.1	2356.3	2465.9	2587.0	2696.6	2776.7	2814.7	2799.6	2732.1
12.5°	2185.8	2200.9	2252.9	2340.8	2453.6	2579.6	2693.3	2776.7	2816.0	2800.4	2730.1
13°	2164.1	2179.7	2233.6	2324.0	2441.4	2571.8	2690.0	2775.9	2816.8	2800.4	2727.6
13.5°	2143.3	2158.4	2214.4	2308.1	2429.1	2563.6	2685.9	2774.7	2816.8	2800.0	2724.8
14°	2121.6	2137.5	2194.8	2290.9	2415.2	2555.1	2681.4	2772.6	2816.4	2798.8	2721.1
14.5°	2099.5	2115.9	2174.7	2273.7	2401.7	2545.7	2676.5	2770.6	2815.1	2797.2	2717.0
15°	2077.8	2094.6	2154.3	2256.1	2388.2	2536.2	2671.2	2767.3	2813.5	2795.1	2712.5
15.5°	2054.9	2072.5	2133.9	2238.1	2373.9	2526.0	2665.1	2764.0	2811.5	2792.7	2707.6
16°	2032.8	2050.4	2113.4	2220.1	2359.2	2515.8	2658.9	2759.9	2808.6	2789.4	2701.9
16.5°	2010.4	2028.3	2093.0	2202.1	2344.0	2504.8	2652.0	2755.4	2805.7	2785.7	2695.7
17°	1987.9	2006.7	2072.5	2183.3	2328.9	2493.7	2644.6	2750.5	2801.7	2781.2	2689.2
17.5°	1965.0	1984.2	2050.8	2164.9	2313.4	2482.3	2636.8	2744.8	2797.2	2776.3	2681.8
18°	1942.1	1961.7	2030.0	2145.3	2297.4	2470.0	2628.7	2738.7	2792.2	2770.6	2674.5
18.5°	1919.2	1938.8	2008.3	2126.5	2280.7	2457.7	2619.7	2731.7	2786.5	2764.4	2666.3
19°	1896.7	1916.3	1987.0	2106.9	2264.3	2444.6	2610.3	2724.4	2780.4	2757.9	2657.3
19.5°	1872.9	1893.4	1965.4	2087.2	2247.5	2431.6	2600.5	2716.6	2773.8	2750.5	2647.9
20°	1850.9	1870.9	1943.3	2067.6	2230.4	2417.7	2590.2	2708.0	2766.1	2741.9	2638.1
20.5°	1827.1	1848.4	1921.6	2047.2	2212.4	2403.8	2579.6	2699.0	2757.9	2733.4	2627.9
21°	1804.2	1825.5	1899.5	2026.7	2194.8	2389.0	2567.7	2689.2	2748.9	2724.4	2616.4



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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°	1733.9	1756.0	1832.9	1965.0	2139.6	2342.4	2530.5	2655.3	2717.0	2691.2	2578.8
23°	1710.6	1733.1	1810.4	1943.7	2120.4	2326.1	2516.6	2642.2	2704.7	2678.6	2564.9
23.5°	1687.3	1709.4	1787.5	1922.4	2100.7	2309.3	2501.9	2628.7	2691.2	2665.1	2550.2
24°	1664.0	1686.5	1765.8	1901.2	2081.1	2291.7	2486.8	2613.1	2676.9	2649.9	2534.2
24.5°	1640.3	1663.2	1742.5	1879.5	2061.1	2273.3	2470.4	2597.2	2661.4	2634.4	2517.4
25°	1616.5	1639.9	1720.0	1857.4	2040.2	2254.5	2453.2	2580.4	2645.0	2617.6	2499.9
25.5°	1593.2	1616.1	1697.1	1835.3	2018.5	2234.5	2435.2	2563.6	2628.3	2601.3	2481.9
26°	1569.9	1593.6	1674.2	1813.2	1997.7	2214.4	2416.8	2545.2	2611.1	2582.9	2463.0
26.5°	1546.6	1570.3	1651.3	1791.2	1975.6	2193.6	2397.6	2526.8	2593.5	2565.3	2444.6
27°	1523.7	1547.0	1628.8	1768.7	1953.5	2173.5	2378.8	2508.8	2575.5	2547.7	2425.4
27.5°	1500.0	1523.7	1605.9	1745.8	1932.2	2153.1	2359.6	2491.3	2557.5	2529.3	2406.6
28°	1476.3	1500.8	1582.6	1723.3	1910.6	2132.6	2340.8	2472.5	2539.1	2510.9	2387.8
28.5°	1452.6	1477.1	1559.7	1700.8	1889.3	2111.8	2320.7	2454.5	2521.5	2493.3	2369.4
29°	1429.7	1454.2	1537.6	1678.7	1868.0	2091.7	2301.9	2436.1	2503.1	2474.9	2350.2
29.5°	1406.8	1430.9	1514.7	1656.6	1847.2	2071.7	2282.7	2418.5	2485.5	2456.9	2331.8
30°	1383.4	1408.0	1491.8	1635.4	1826.7	2052.1	2264.3	2401.3	2468.8	2440.1	2314.6
30.5°	1359.7	1385.1	1469.3	1613.3	1805.5	2032.4	2246.3	2384.9	2452.8	2424.2	2297.4
31°	1336.8	1362.2	1447.6	1592.0	1784.6	2013.2	2229.1	2366.9	2435.2	2405.8	2277.8
31.5°	1313.9	1339.3	1425.6	1569.5	1761.7	1991.1	2208.7	2344.9	2414.4	2384.5	2255.3
32°	1291.0	1316.8	1403.1	1547.4	1738.0	1967.8	2185.8	2319.5	2389.8	2359.6	2229.1
32.5°	1267.3	1293.5	1381.0	1523.7	1712.6	1941.2	2160.0	2292.5	2362.0	2331.4	2201.3
33°	1244.8	1271.4	1358.1	1500.8	1686.9	1914.3	2132.2	2261.0	2330.6	2300.3	2171.5
33.5°	1222.7	1249.3	1336.0	1476.3	1659.5	1884.8	2101.5	2227.9	2296.6	2266.8	2138.8
34°	1199.8	1226.8	1312.7	1450.9	1632.1	1855.0	2069.6	2191.1	2259.8	2231.2	2105.2
34.5°	1177.3	1204.7	1289.4	1426.0	1604.3	1823.9	2035.3	2153.5	2221.0	2193.1	2070.1
35°	1154.4	1182.2	1266.1	1401.0	1576.1	1791.2	2000.1	2112.2	2179.7	2152.3	2034.1
35.5°	1131.9	1159.8	1242.8	1375.3	1546.6	1758.9	1962.5	2070.1	2135.9	2111.4	1996.0
36°	1110.3	1137.3	1219.5	1349.5	1517.6	1725.7	1924.9	2025.9	2090.5	2067.6	1956.0
36.5°	1087.8	1115.2	1196.2	1323.3	1487.3	1691.4	1886.4	1981.7	2043.9	2022.2	1915.1
37°	1066.1	1093.1	1172.8	1298.0	1457.5	1656.2	1844.7	1934.3	1996.0	1975.6	1873.8
37.5°	1043.6	1070.6	1148.7	1271.8	1427.2	1621.4	1803.8	1886.9	1947.4	1927.3	1830.8
38°	1021.9	1048.5	1125.4	1245.2	1396.1	1585.5	1760.9	1839.4	1897.9	1879.1	1787.5
38.5°	999.9	1025.6	1101.7	1218.2	1365.9	1550.3	1718.4	1793.6	1848.0	1830.4	1742.9
39°	978.2	1003.9	1078.0	1192.1	1336.4	1513.9	1675.8	1743.7	1796.5	1780.9	1698.3
39.5°	956.9	981.9	1054.7	1165.9	1305.3	1477.1	1632.5	1695.9	1745.4	1730.2	1653.3
40°	935.2	959.8	1030.1	1139.3	1273.8	1440.3	1589.1	1646.8	1694.6	1680.3	1608.0
40.5°	913.6	937.7	1006.8	1111.9	1243.2	1403.9	1545.0	1600.2	1643.5	1630.9	1562.2
41°	892.3	916.0	983.1	1085.7	1212.1	1367.1	1502.4	1551.9	1594.5	1581.8	1517.2
41.5°	870.6	894.4	960.2	1059.6	1181.8	1329.9	1459.9	1504.1	1543.8	1532.7	1472.2
42°	849.0	872.7	936.9	1033.4	1150.8	1293.5	1417.8	1458.3	1495.9	1484.0	1428.0
42.5°	828.1	851.4	913.6	1008.0	1120.1	1257.1	1376.5	1413.3	1448.1	1436.6	1384.3
43°	806.8	830.1	891.5	982.3	1089.8	1221.9	1334.8	1369.1	1401.4	1391.2	1340.9
43.5°	786.0	808.9	869.0	956.9	1059.2	1186.3	1294.3	1325.8	1355.6	1345.0	1298.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	723.0	746.3	802.3	881.7	970.4	1082.9	1178.6	1202.7	1228.0	1218.6	1177.7
45.5°	702.6	725.1	780.7	857.5	941.8	1050.2	1141.8	1164.7	1188.4	1178.2	1138.9
46°	682.5	705.0	759.0	833.8	913.6	1018.3	1106.2	1127.4	1150.3	1140.5	1101.3
46.5°	662.9	685.4	738.5	810.1	886.2	986.0	1071.4	1091.1	1113.5	1103.3	1064.9
47°	642.9	664.9	716.9	785.6	858.8	954.5	1037.5	1057.5	1078.8	1068.2	1030.9
47.5°	623.2	646.1	696.0	763.5	832.2	924.6	1004.8	1024.8	1046.1	1034.6	997.4
48°	604.0	626.9	675.6	740.2	806.8	896.4	973.3	993.3	1014.2	1003.1	965.1
48.5°	585.2	608.1	655.1	717.7	782.3	867.8	943.4	963.1	983.1	971.6	933.6
49°	566.0	590.1	635.5	695.6	757.4	839.6	913.6	934.4	954.9	943.0	904.6
49.5°	548.8	572.1	615.5	674.3	732.8	813.8	885.8	906.2	926.7	913.6	875.1
50°	530.4	554.1	596.2	652.7	709.5	788.0	858.4	879.6	899.7	887.0	847.7
50.5°	512.8	537.3	577.0	631.4	687.0	762.7	831.4	853.5	873.5	860.4	821.2
51°	496.0	519.8	558.6	611.0	664.9	738.1	806.0	828.9	848.6	835.1	795.8
51.5°	480.1	503.4	540.2	591.3	643.7	714.8	781.9	804.8	824.8	811.3	771.3
52°	464.1	486.6	521.8	572.1	622.8	691.9	757.8	782.3	801.5	787.6	747.5
52.5°	449.0	471.1	504.6	552.9	602.8	670.7	734.9	759.4	779.4	764.7	724.2
53°	435.1	455.6	487.5	534.1	583.1	649.0	712.4	738.1	757.8	743.0	702.2
53.5°	421.6	440.4	470.7	516.1	564.3	628.1	691.1	717.3	736.9	721.8	680.5
54°	409.3	425.7	454.3	498.5	545.9	607.7	670.3	696.8	716.9	701.3	660.4
54.5°	398.3	411.8	438.4	482.1	528.4	588.9	649.8	677.2	696.8	681.3	640.4
55°	388.1	398.7	423.3	465.4	510.8	569.7	630.6	658.0	677.2	662.1	620.8
55.5°	378.7	385.6	408.5	449.8	494.0	551.3	611.8	639.2	658.4	643.3	602.0
56°	370.1	373.8	394.2	433.9	477.2	533.7	593.0	621.2	639.6	625.3	583.6
56.5°	363.5	362.3	380.7	419.2	461.3	516.1	575.0	603.2	621.2	606.5	565.6
57°	355.8	351.7	367.2	404.4	445.3	498.9	557.4	585.6	603.2	588.9	548.4
57.5°	346.8	341.9	354.6	390.1	430.2	482.5	540.2	568.8	585.6	572.1	531.6
58°	337.8	333.7	342.3	376.2	415.5	467.0	523.4	551.7	568.0	555.3	515.3
58.5°	328.8	325.5	330.4	363.1	401.2	451.5	507.5	534.9	550.4	538.2	498.5
59°	319.8	317.3	319.0	350.1	387.3	436.3	491.1	518.5	533.7	521.4	483.0
59.5°	310.4	308.8	308.3	337.4	373.8	421.6	475.6	502.2	516.9	505.0	467.4
60°	301.4	300.6	297.7	325.1	360.3	407.3	460.5	486.6	501.0	489.5	452.3
60.5°	292.4	292.0	287.9	313.2	348.0	393.8	444.9	471.1	484.6	473.6	437.6
61°	283.8	283.4	278.1	301.4	335.7	379.9	430.2	456.0	469.1	458.4	422.8
61.5°	275.2	275.2	268.7	290.3	323.1	366.4	415.9	440.8	453.5	443.7	408.9
62°	267.0	267.0	260.1	279.3	310.8	354.1	402.4	426.1	438.4	429.4	395.0
62.5°	258.5	258.9	251.5	268.7	299.8	341.5	388.5	411.4	423.7	413.8	381.5
63°	250.7	251.1	243.3	258.5	288.3	329.2	375.0	397.5	408.9	399.9	368.5
63.5°	242.5	243.3	235.5	248.6	277.3	316.9	361.9	384.0	394.6	386.0	355.8
64°	235.1	235.5	228.6	239.2	266.6	304.7	349.2	370.1	380.7	372.5	343.1
64.5°	227.4	228.2	221.6	230.2	256.0	293.2	336.6	357.4	367.2	359.5	330.8
65°	220.0	221.2	215.1	221.2	246.2	282.2	323.9	344.7	354.1	346.8	318.2
65.5°	213.1	213.9	208.6	212.6	236.4	271.1	311.6	332.1	341.1	334.1	305.5
66°	205.7	206.9	202.0	204.5	226.6	260.1	300.2	319.4	328.4	321.4	294.0



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	185.3	186.9	182.8	181.2	199.6	229.8	266.2	282.6	289.5	284.2	260.1
68°	179.1	180.3	177.1	174.2	190.6	220.0	255.2	270.7	277.3	272.4	249.0
68.5°	172.6	173.8	170.9	167.3	182.4	210.6	244.1	259.7	265.8	261.3	238.8
69°	166.4	167.7	164.8	160.7	174.6	201.2	233.9	248.2	254.0	249.9	228.2
69.5°	159.9	161.5	159.1	154.2	166.8	192.6	223.7	237.6	242.9	238.8	218.4
70°	154.2	155.4	153.4	147.6	159.1	184.0	213.9	227.0	231.5	228.2	208.6
70.5°	148.0	149.7	147.2	141.9	152.1	175.4	204.1	216.7	220.8	218.4	199.2
71°	142.3	143.9	141.9	136.6	144.8	167.3	195.1	206.5	210.2	207.7	189.3
71.5°	137.0	138.6	137.0	131.3	138.2	159.1	185.7	197.1	200.0	197.9	180.3
72°	131.7	133.3	131.7	126.0	131.3	151.3	176.7	186.9	189.3	188.1	171.3
72.5°	126.0	127.6	126.8	120.2	124.7	143.9	167.7	177.9	179.5	178.3	162.3
73°	120.6	122.3	121.5	115.3	118.6	136.6	159.1	168.5	169.7	169.3	153.8
73.5°	115.3	117.0	116.1	110.4	112.5	129.2	150.5	159.5	160.3	160.3	146.0
74°	110.4	111.6	111.2	105.9	106.7	122.3	142.7	150.9	151.3	151.7	137.8
74.5°	105.1	106.7	106.3	101.0	101.0	115.7	134.5	142.7	141.9	143.1	129.6
75°	100.2	101.8	101.8	96.5	95.7	109.2	126.8	134.1	133.3	134.5	122.3
75.5°	95.3	96.9	96.9	92.4	90.8	103.1	119.4	126.4	124.7	126.8	114.9
76°	90.8	92.0	92.4	87.9	85.5	96.9	112.0	118.6	116.1	119.0	107.6
76.5°	85.9	87.5	87.9	83.8	81.0	90.8	105.1	110.8	108.0	111.2	100.6
77°	81.4	82.6	83.4	79.7	76.1	85.5	98.6	103.5	100.2	103.9	94.1
77.5°	76.9	78.1	78.9	75.7	71.6	79.7	91.6	96.5	92.4	96.9	87.5
78°	72.4	74.0	74.8	71.6	67.5	74.8	85.5	89.6	85.1	90.0	81.0
78.5°	68.3	69.5	70.3	67.9	63.0	69.5	79.3	83.0	77.7	83.0	75.2
79°	63.8	65.4	66.2	63.8	59.3	64.6	73.2	76.5	70.7	76.9	69.1
79.5°	59.7	61.3	62.2	60.1	55.2	60.1	67.5	70.3	64.2	70.3	63.8
80°	55.6	56.8	58.1	56.4	51.5	55.6	61.8	64.2	57.7	64.6	58.1
80.5°	51.9	52.8	54.4	52.8	47.8	51.1	56.8	58.1	51.5	58.5	52.8
81°	47.8	49.1	50.7	49.5	44.2	47.0	51.5	52.3	45.4	52.8	47.8
81.5°	44.2	45.4	47.0	45.8	40.9	42.9	46.6	46.6	40.1	47.4	42.9
82°	40.5	41.3	43.3	42.5	37.6	38.8	42.1	41.7	34.8	42.5	38.8
82.5°	36.8	37.6	39.7	38.8	34.4	35.6	38.0	36.8	29.9	37.6	34.8
83°	33.1	34.4	36.4	35.6	31.5	32.3	33.9	31.9	24.5	32.7	30.3
83.5°	29.4	30.7	32.7	32.7	28.6	28.6	29.9	27.0	19.2	27.8	26.2
84°	26.2	27.0	29.4	29.4	25.4	25.4	25.8	22.1	15.1	22.9	22.1
84.5°	22.9	23.7	26.2	26.2	22.5	22.1	21.7	17.6	11.5	18.0	18.8
85°	19.6	20.4	22.9	23.3	19.6	19.2	18.4	13.9	8.6	13.9	15.5
85.5°	16.4	16.8	20.0	20.0	16.8	16.4	15.5	11.0	6.5	11.0	12.7
86°	13.9	14.7	17.2	17.2	14.3	13.5	12.7	8.2	5.3	8.2	9.8
86.5°	11.5	12.3	14.3	14.7	11.9	11.0	9.8	5.7	4.1	5.7	7.4
87°	9.0	9.8	11.9	11.9	9.4	8.6	7.4	3.7	2.9	3.7	5.3
87.5°	6.5	7.4	9.4	9.4	7.0	6.1	5.3	2.0	2.0	2.0	3.3
88°	4.5	5.3	7.0	6.5	4.9	4.1	3.3	0.8	0.8	0.8	1.6
88.5°	2.9	3.3	4.1	4.1	2.5	2.0	1.6	0.4	0.4	0.4	0.4



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2625.8	2625.8	2625.8	2625.8	2625.8	2625.8
0.5°	2629.9	2624.2	2616.4	2609.4	2617.6	2617.2
1°	2634.8	2624.2	2611.1	2600.0	2605.0	2603.3
1.5°	2639.3	2624.2	2605.4	2589.8	2591.9	2589.0
2°	2643.8	2622.9	2599.2	2578.8	2578.4	2573.9
2.5°	2647.5	2621.7	2592.3	2567.3	2564.5	2558.7
3°	2650.8	2619.7	2585.3	2556.3	2550.2	2543.2
3.5°	2653.2	2617.2	2577.6	2544.4	2535.8	2527.3
4°	2655.7	2614.8	2569.8	2532.2	2520.7	2510.9
4.5°	2657.3	2611.5	2561.2	2519.1	2505.2	2494.1
5°	2658.1	2607.8	2552.6	2505.6	2489.6	2477.0
5.5°	2658.9	2603.7	2542.8	2492.1	2473.3	2459.8
6°	2659.3	2598.8	2533.4	2478.2	2456.9	2442.2
6.5°	2658.9	2593.5	2523.2	2463.5	2440.1	2424.2
7°	2658.1	2588.2	2512.1	2449.1	2422.6	2405.4
7.5°	2656.9	2581.6	2501.1	2433.2	2405.4	2387.4
8°	2655.3	2575.1	2489.6	2418.1	2387.4	2368.2
8.5°	2653.2	2568.1	2477.4	2401.7	2369.4	2349.0
9°	2650.3	2560.4	2464.7	2385.8	2350.6	2328.9
9.5°	2647.1	2552.2	2451.6	2368.6	2331.8	2309.7
10°	2643.4	2544.0	2438.5	2352.2	2313.0	2289.7
10.5°	2639.3	2535.0	2425.0	2334.6	2293.7	2269.2
11°	2634.4	2525.2	2411.1	2317.5	2274.1	2248.8
11.5°	2629.5	2515.4	2396.4	2299.1	2254.1	2228.3
12°	2623.4	2505.2	2381.7	2281.1	2234.0	2207.5
12.5°	2617.6	2494.5	2366.5	2262.7	2213.6	2185.8
13°	2610.7	2483.5	2351.4	2243.9	2193.1	2164.1
13.5°	2603.7	2472.0	2335.5	2225.0	2172.7	2143.3
14°	2596.0	2460.2	2319.1	2205.4	2151.4	2121.6
14.5°	2588.2	2447.9	2302.3	2185.8	2130.6	2099.5
15°	2579.6	2434.8	2286.0	2166.6	2108.9	2077.8
15.5°	2570.6	2421.7	2268.4	2145.7	2087.2	2054.9
16°	2561.2	2407.8	2251.2	2125.7	2065.6	2032.8
16.5°	2551.4	2394.3	2233.6	2104.8	2043.5	2010.4
17°	2540.7	2379.6	2215.2	2084.8	2021.8	1987.9
17.5°	2530.1	2364.9	2197.2	2064.3	1999.7	1965.0
18°	2518.7	2349.8	2178.4	2042.7	1977.6	1942.1
18.5°	2507.2	2334.2	2159.6	2021.4	1955.1	1919.2
19°	2494.5	2318.3	2140.4	2000.5	1932.2	1896.7
19.5°	2481.9	2302.3	2121.2	1979.3	1909.8	1872.9
20°	2468.8	2285.2	2101.5	1957.6	1887.3	1850.9
20.5°	2454.9	2268.8	2081.9	1935.5	1864.8	1827.1
21°	2441.0	2251.2	2061.5	1913.8	1841.9	1804.2

TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2395.6	2197.2	2000.1	1847.6	1773.2	1733.9
23°	2379.2	2178.0	1978.9	1825.1	1749.4	1710.6
23.5°	2361.6	2158.8	1957.6	1803.0	1727.0	1687.3
24°	2344.0	2139.2	1935.9	1779.7	1704.1	1664.0
24.5°	2325.2	2118.7	1914.3	1758.0	1680.3	1640.3
25°	2305.6	2097.5	1892.2	1734.7	1657.0	1616.5
25.5°	2286.0	2076.6	1870.1	1711.8	1634.1	1593.2
26°	2265.5	2055.3	1847.6	1689.3	1610.8	1569.9
26.5°	2245.5	2033.3	1825.1	1666.8	1587.5	1546.6
27°	2225.5	2011.2	1802.2	1643.5	1564.6	1523.7
27.5°	2205.0	1989.9	1779.7	1620.2	1540.9	1500.0
28°	2184.6	1968.6	1757.2	1597.3	1518.0	1476.3
28.5°	2164.5	1947.0	1735.5	1575.2	1494.3	1452.6
29°	2144.9	1926.1	1713.5	1552.3	1471.8	1429.7
29.5°	2125.7	1905.7	1692.2	1530.3	1448.5	1406.8
30°	2106.9	1885.2	1670.5	1507.4	1425.6	1383.4
30.5°	2087.2	1864.8	1648.4	1485.3	1402.7	1359.7
31°	2065.1	1842.7	1625.9	1463.2	1380.2	1336.8
31.5°	2041.8	1819.8	1603.9	1440.7	1357.3	1313.9
32°	2015.7	1794.4	1580.1	1418.2	1334.4	1291.0
32.5°	1987.9	1768.3	1556.0	1395.3	1311.5	1267.3
33°	1958.4	1742.1	1531.5	1372.4	1289.4	1244.8
33.5°	1928.2	1713.9	1506.5	1349.5	1266.9	1222.7
34°	1896.7	1685.7	1480.8	1326.2	1244.4	1199.8
34.5°	1864.8	1657.0	1454.6	1302.5	1221.9	1177.3
35°	1832.1	1627.6	1428.4	1278.8	1199.8	1154.4
35.5°	1798.1	1598.1	1402.3	1254.6	1176.9	1131.9
36°	1763.8	1567.9	1375.7	1231.3	1154.8	1110.3
36.5°	1728.2	1538.0	1349.1	1207.2	1132.4	1087.8
37°	1692.2	1506.9	1321.7	1182.7	1109.9	1066.1
37.5°	1655.8	1476.3	1295.1	1158.5	1087.4	1043.6
38°	1619.0	1444.4	1267.7	1134.4	1064.9	1021.9
38.5°	1582.2	1413.3	1240.7	1110.3	1042.4	999.9
39°	1545.0	1381.4	1214.1	1086.6	1019.9	978.2
39.5°	1507.4	1349.9	1186.3	1062.4	997.8	956.9
40°	1468.1	1318.0	1159.3	1038.3	975.7	935.2
40.5°	1429.7	1285.7	1132.4	1014.6	953.2	913.6
41°	1392.0	1253.4	1105.4	990.9	931.2	892.3
41.5°	1353.6	1221.5	1078.4	966.7	908.7	870.6
42°	1315.6	1190.0	1051.8	943.8	887.0	849.0
42.5°	1276.7	1157.3	1025.6	920.9	865.3	828.1
43°	1239.1	1126.2	999.0	897.2	844.1	806.8
43.5°	1201.9	1094.7	972.1	873.9	822.8	786.0



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1093.9	1002.3	894.8	806.0	758.6	723.0
45.5°	1058.3	971.6	869.0	783.5	738.1	702.6
46°	1025.2	942.2	844.1	761.9	717.3	682.5
46.5°	990.9	912.8	819.1	740.2	697.2	662.9
47°	958.6	884.5	794.6	718.1	677.2	642.9
47.5°	927.1	855.9	770.0	696.4	657.6	623.2
48°	897.2	828.5	746.7	675.6	638.4	604.0
48.5°	867.0	801.5	723.0	654.3	618.7	585.2
49°	837.9	775.8	700.1	634.3	600.3	566.0
49.5°	810.5	750.4	677.2	613.8	581.9	548.8
50°	783.9	725.1	655.1	593.8	563.5	530.4
50.5°	757.4	700.5	633.0	573.7	545.9	512.8
51°	732.8	677.2	612.2	554.9	527.5	496.0
51.5°	709.1	654.7	591.3	535.7	510.8	480.1
52°	685.8	632.6	571.3	518.1	494.0	464.1
52.5°	662.9	611.4	551.7	499.7	477.2	449.0
53°	641.2	590.5	532.4	482.1	460.9	435.1
53.5°	620.0	570.5	514.0	465.0	444.9	421.6
54°	600.3	551.3	495.6	448.6	429.4	409.3
54.5°	580.7	532.8	478.5	432.3	414.7	398.3
55°	561.5	514.0	461.7	416.7	400.8	388.1
55.5°	543.5	496.9	445.3	401.6	387.3	378.7
56°	525.5	480.1	429.4	387.3	374.2	370.1
56.5°	508.3	463.3	413.8	373.4	361.9	363.5
57°	491.5	447.0	399.1	359.5	350.9	355.8
57.5°	475.2	431.8	384.8	346.8	339.8	346.8
58°	459.6	417.1	370.9	334.5	330.0	337.8
58.5°	444.1	402.4	357.4	322.7	321.0	328.8
59°	429.0	387.7	344.3	311.2	312.8	319.8
59.5°	414.7	374.6	331.7	299.8	305.1	310.4
60°	400.4	361.1	319.4	289.5	296.9	301.4
60.5°	386.4	348.0	307.5	279.3	288.7	292.4
61°	373.0	334.5	296.1	269.5	280.5	283.8
61.5°	360.3	322.7	284.6	260.1	272.4	275.2
62°	347.6	310.8	273.6	251.5	264.6	267.0
62.5°	335.3	299.3	263.4	242.5	256.4	258.5
63°	322.7	287.5	253.1	234.3	248.6	250.7
63.5°	310.4	276.4	243.3	226.6	241.3	242.5
64°	298.5	265.8	233.5	218.8	233.5	235.1
64.5°	287.5	255.2	224.5	211.4	226.6	227.4
65°	275.6	245.0	215.5	204.9	219.2	220.0
65.5°	265.0	235.1	206.9	198.3	212.2	213.1
66°	254.4	225.3	198.7	192.2	205.3	205.7



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	224.1	198.3	175.4	173.8	184.8	185.3
68°	214.7	189.7	168.1	168.1	178.7	179.1
68.5°	205.3	181.2	161.1	162.3	172.2	172.6
69°	196.3	173.4	154.6	156.2	166.4	166.4
69.5°	187.3	165.6	148.0	150.9	160.3	159.9
70°	178.7	157.9	142.3	145.6	154.2	154.2
70.5°	170.1	150.5	136.6	140.3	148.4	148.0
71°	161.9	143.9	130.9	135.4	143.1	142.3
71.5°	154.2	137.4	125.1	130.0	137.4	137.0
72°	146.4	130.9	119.0	124.7	132.1	131.7
72.5°	139.0	124.3	114.1	119.4	126.8	126.0
73°	131.7	117.4	108.8	114.5	121.5	120.6
73.5°	124.7	111.6	103.9	109.6	116.1	115.3
74°	117.8	105.5	99.4	105.1	110.8	110.4
74.5°	111.2	99.8	94.5	100.2	105.9	105.1
75°	104.7	94.5	90.0	95.3	101.0	100.2
75.5°	98.6	89.1	85.9	90.8	96.1	95.3
76°	92.4	84.2	81.4	86.3	91.2	90.8
76.5°	86.7	79.3	77.3	82.2	86.7	85.9
77°	81.4	74.4	73.2	77.7	82.2	81.4
77.5°	76.1	69.9	69.5	73.6	77.3	76.9
78°	70.7	65.4	65.8	69.5	73.2	72.4
78.5°	65.8	61.3	61.8	65.4	68.7	68.3
79°	60.9	57.3	58.5	61.3	64.6	63.8
79.5°	56.4	53.2	54.8	57.7	60.5	59.7
80°	51.5	49.5	51.1	53.6	56.4	55.6
80.5°	47.4	45.8	47.8	49.9	52.3	51.9
81°	43.3	42.1	44.6	46.2	48.7	47.8
81.5°	39.3	38.8	40.9	42.5	44.6	44.2
82°	36.0	35.6	37.6	39.3	40.9	40.5
82.5°	32.3	32.3	34.4	35.6	37.2	36.8
83°	29.0	29.0	31.5	32.3	33.5	33.1
83.5°	25.4	26.2	28.2	29.0	30.3	29.4
84°	22.1	23.3	25.4	25.8	26.6	26.2
84.5°	18.8	20.4	22.5	22.9	23.3	22.9
85°	15.9	18.0	19.6	20.0	20.0	19.6
85.5°	13.1	15.1	16.8	17.2	16.8	16.4
86°	10.6	12.7	13.9	14.3	14.3	13.9
86.5°	8.2	10.2	11.5	11.9	12.3	11.5
87°	6.1	7.8	9.0	9.4	9.8	9.0
87.5°	3.7	5.7	6.5	6.5	7.4	6.5
88°	2.0	3.3	3.7	4.1	5.3	4.5
88.5°	0.4	1.2	1.6	2.0	3.3	2.9



TEST NUMBER: P776474

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	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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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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21.5°	1780.5	1802.2	1876.6	2006.3	2176.8	2373.9	2555.9	2678.6	2739.1	2713.7	2604.1
22°	1757.2	1778.9	1855.0	1985.8	2158.4	2358.4	2543.6	2667.1	2728.5	2703.1	2591.9



44°	764.7	787.6	846.9	930.7	1029.3	1151.2	1255.0	1283.3	1311.1	1301.7	1256.3
44.5°	743.9	766.8	824.4	907.0	999.9	1116.4	1216.6	1242.4	1268.9	1258.3	1216.2



66.5°	198.7	200.0	195.5	196.3	217.1	249.5	288.7	306.7	315.3	308.8	282.6
67°	192.2	193.4	189.3	188.5	208.2	239.6	277.3	294.4	302.2	296.1	271.1



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

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21.5°	2425.8	2233.6	2041.4	1891.8	1819.0	1780.5
22°	2410.7	2214.8	2020.6	1869.7	1796.1	1757.2



44°	1165.1	1063.2	946.3	851.4	800.7	764.7
44.5°	1129.5	1032.2	920.5	828.5	779.8	743.9

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66.5°	244.1	216.3	190.6	186.1	198.3	198.7
67°	233.9	207.3	182.8	179.9	191.8	192.2

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Scaled Data Report



89°	0.0	0.4	0.4	0.4	1.6	1.2
89.5°	0.0	0.0	0.0	0.0	0.4	0.4

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Scaled Data Report



(END OF REPORT)