

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: P776492

Luminaire Tested: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776492
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-HCD8TRH-4000lm-3500K
Description: 8 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

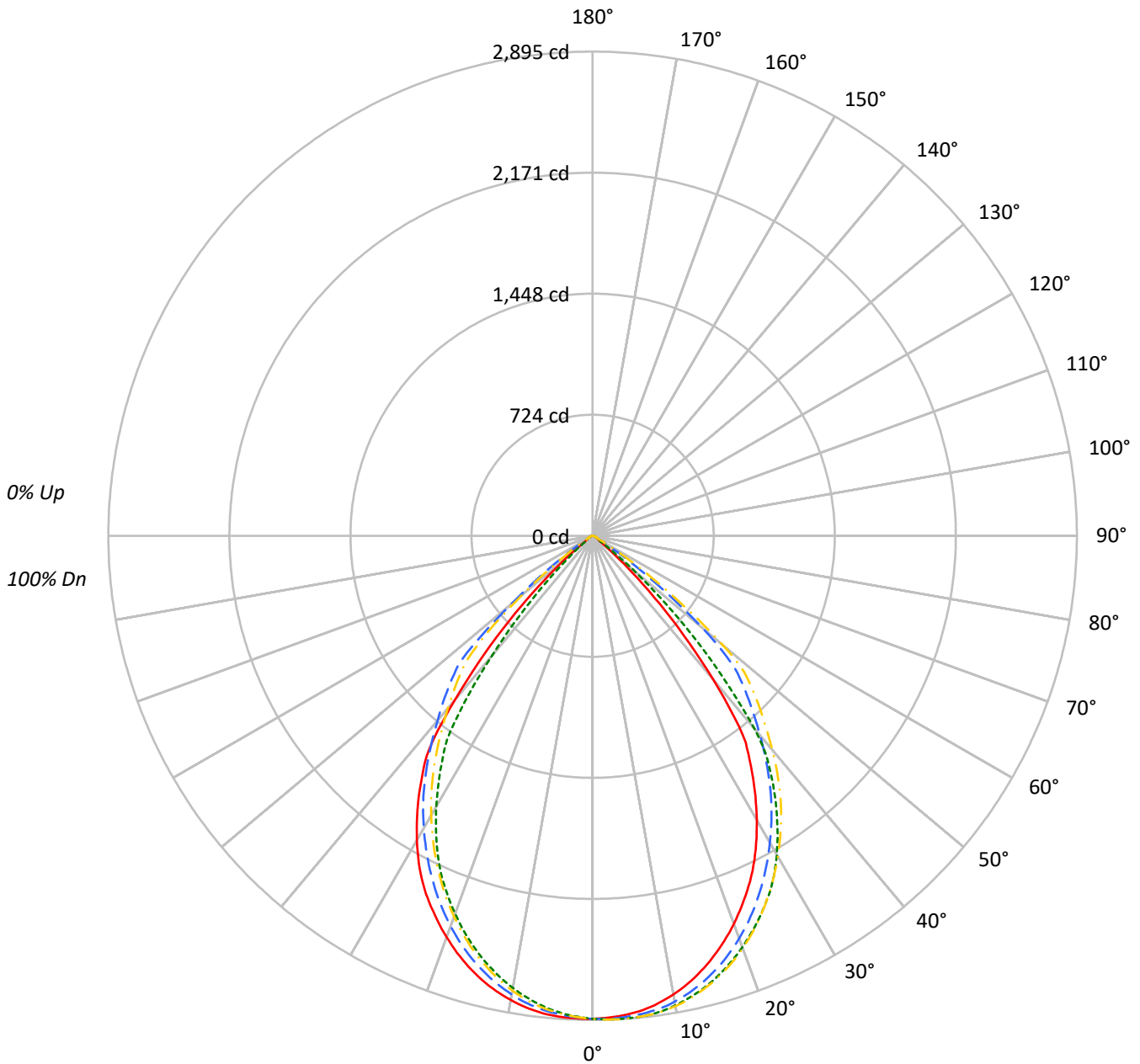
Lumens per Lamp: N/A
Luminaire Lumens: 4003.2 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 1.08 / 1.15
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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					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	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	104	110	107	105	103	103	101	99	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84					84			
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	78	76					76			
4	94	85	79	74	92	84	78	73	82	76	72	79	75	72	78	74	71	69					69			
5	88	78	72	67	86	77	71	66	75	70	66	74	69	65	72	68	65	63					63			
6	83	72	66	61	81	72	65	60	70	64	60	68	63	60	67	63	59	57					57			
7	78	67	60	55	76	66	60	55	65	59	55	64	58	55	62	58	54	53					53			
8	73	62	55	51	72	62	55	51	60	55	50	59	54	50	58	54	50	48					48			
9	69	58	51	47	68	57	51	47	56	51	46	56	50	46	55	50	46	45					45			
10	65	54	48	43	64	54	47	43	53	47	43	52	47	43	51	46	43	41					41			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	88181	88181	88181	88181
5°	87736	88612	88174	87166
10°	86314	88381	87383	85117
15°	83807	87173	85665	82109
20°	80220	85035	82959	78092
25°	75629	82067	79470	73046
30°	69188	77621	74046	65867
35°	61004	70822	66543	57304
40°	44681	59833	50986	37336
45°	22504	36432	28147	16467
50°	6868	15113	9248	4716
55°	2539	2853	2539	2198
60°	1942	2137	1942	1673
65°	1524	1633	1495	1293
70°	1205	1312	1169	1027
75°	979	1073	932	802
80°	774	914	774	633
85°	560	841	560	420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 59881 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.9	6.8
10°-20°	754.6	18.9
20°-30°	1059.0	26.5
30°-40°	1087.5	27.2
40°-50°	664.9	16.6
50°-60°	129.1	3.2
60°-70°	23.5	0.6
70°-80°	10.4	0.3
80°-90°	2.3	0.1
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°	2085.5	52.1
0°-40°	3172.9	79.3
0°-60°	3967.0	99.1
0°-90°	4003.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4003.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2888	2888	2888	2888	2888	
5°	2863	2891	2877	2844	2863	271
15°	2652	2758	2710	2598	2652	744
25°	2245	2436	2359	2168	2245	1027
35°	1637	1900	1785	1538	1637	1000
45°	521	844	652	381	521	420
55°	48	54	48	41	48	52
65°	21	23	21	18	21	21
75°	8	9	8	7	8	9
85°	2	2	2	1	2	2
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°	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3
0.5°	2887.5	2887.1	2889.1	2890.6	2889.5	2890.6	2891.4	2891.4	2888.7	2886.7	2886.7
1°	2885.9	2886.7	2889.1	2891.8	2891.0	2892.2	2893.0	2892.2	2888.7	2885.5	2885.1
1.5°	2884.3	2885.9	2889.1	2892.6	2892.2	2893.8	2894.2	2892.6	2888.3	2884.3	2883.1
2°	2882.3	2884.7	2889.1	2893.0	2893.4	2894.6	2895.0	2892.6	2887.5	2882.7	2880.7
2.5°	2879.9	2883.1	2888.3	2893.0	2893.8	2895.4	2895.0	2892.6	2886.7	2880.7	2878.3
3°	2877.1	2881.1	2887.1	2892.2	2893.8	2895.4	2895.0	2892.2	2885.1	2878.7	2875.2
3.5°	2874.0	2878.7	2885.5	2891.0	2893.8	2895.4	2894.6	2891.0	2883.5	2875.9	2872.0
4°	2870.8	2876.3	2883.5	2889.9	2893.0	2894.6	2893.8	2890.2	2881.9	2873.6	2868.4
4.5°	2867.2	2873.6	2881.1	2888.3	2892.2	2893.8	2892.6	2889.1	2879.9	2870.8	2864.0
5°	2862.8	2870.4	2878.7	2886.7	2891.4	2892.6	2891.4	2887.1	2877.1	2867.2	2860.1
5.5°	2858.1	2866.4	2875.6	2884.7	2889.9	2891.4	2889.9	2884.7	2874.4	2863.6	2855.3
6°	2852.5	2862.0	2872.8	2882.3	2888.3	2889.9	2887.9	2882.3	2870.4	2859.3	2849.7
6.5°	2846.2	2856.5	2869.2	2879.5	2885.9	2887.9	2885.9	2878.7	2865.6	2854.1	2843.8
7°	2839.0	2850.9	2865.2	2875.9	2882.7	2885.1	2883.5	2874.8	2860.5	2848.5	2837.4
7.5°	2831.5	2844.2	2860.9	2871.6	2878.7	2881.9	2880.3	2869.6	2854.9	2841.8	2830.3
8°	2822.7	2837.0	2856.1	2866.8	2874.4	2877.9	2876.7	2864.8	2848.9	2835.4	2822.3
8.5°	2813.6	2828.7	2850.1	2861.6	2869.2	2873.2	2872.4	2859.3	2841.8	2827.9	2814.0
9°	2804.4	2820.7	2843.8	2855.7	2863.6	2868.4	2867.6	2852.9	2834.6	2819.5	2804.8
9.5°	2794.1	2811.6	2836.6	2849.3	2857.7	2862.4	2862.0	2846.2	2826.7	2811.2	2795.3
10°	2784.2	2802.8	2828.7	2842.6	2850.9	2856.5	2855.7	2839.0	2818.7	2802.4	2785.0
10.5°	2773.4	2792.9	2820.3	2835.0	2843.4	2850.1	2849.3	2831.8	2810.4	2792.9	2774.2
11°	2761.9	2783.0	2811.2	2827.1	2835.8	2842.6	2842.2	2823.9	2801.3	2783.4	2763.5
11.5°	2750.0	2772.3	2801.7	2818.3	2827.9	2834.6	2834.2	2815.6	2791.7	2772.7	2751.6
12°	2737.3	2761.5	2791.3	2809.6	2819.5	2826.7	2825.5	2806.8	2781.8	2761.9	2739.7
12.5°	2724.6	2750.0	2781.0	2800.1	2810.4	2818.3	2816.4	2797.7	2771.1	2750.4	2727.0
13°	2711.1	2738.1	2769.9	2790.5	2801.3	2809.6	2807.2	2787.8	2760.3	2738.5	2714.3
13.5°	2696.8	2725.8	2758.0	2780.2	2790.9	2800.1	2797.3	2777.8	2748.4	2726.2	2701.1
14°	2682.1	2712.7	2746.0	2769.5	2780.6	2790.1	2786.6	2767.1	2736.5	2713.5	2686.8
14.5°	2666.6	2698.4	2733.3	2758.0	2769.5	2779.4	2775.8	2755.6	2723.4	2699.6	2672.9
15°	2651.5	2684.5	2720.2	2745.6	2758.0	2768.3	2764.3	2744.0	2710.3	2685.6	2658.2
15.5°	2634.8	2669.8	2706.7	2732.9	2746.0	2756.4	2752.4	2731.7	2696.8	2671.3	2643.1
16°	2618.1	2654.3	2692.8	2720.2	2733.7	2744.4	2740.1	2718.6	2682.5	2656.2	2627.2
16.5°	2601.4	2638.8	2678.1	2707.1	2720.6	2732.1	2727.8	2704.7	2667.8	2640.8	2611.0
17°	2583.9	2622.9	2663.0	2693.2	2707.1	2719.0	2714.3	2691.6	2653.1	2624.5	2593.9
17.5°	2565.7	2606.2	2647.1	2678.1	2693.2	2705.1	2700.3	2676.9	2637.2	2608.2	2576.8
18°	2547.4	2588.7	2631.2	2663.0	2678.9	2691.2	2686.4	2661.8	2621.3	2591.5	2559.3
18.5°	2528.3	2570.8	2614.5	2647.5	2663.8	2676.5	2671.3	2646.7	2604.6	2574.0	2540.6
19°	2508.9	2553.0	2597.5	2631.6	2648.7	2661.0	2655.9	2630.8	2587.9	2556.5	2522.4
19.5°	2489.4	2534.3	2580.0	2614.9	2633.2	2645.5	2640.4	2614.5	2570.8	2538.3	2503.3
20°	2469.1	2515.2	2562.1	2598.6	2617.3	2629.2	2624.1	2597.8	2553.4	2520.0	2483.8
20.5°	2448.1	2495.0	2543.8	2581.2	2601.0	2613.3	2607.4	2580.4	2535.1	2500.5	2464.0
21°	2426.6	2474.7	2525.1	2563.7	2583.9	2596.3	2590.3	2562.9	2517.2	2481.4	2443.7



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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°	2360.7	2411.5	2465.9	2508.5	2531.9	2543.8	2536.3	2508.5	2459.2	2421.5	2380.1
23°	2338.0	2388.9	2445.7	2489.4	2513.2	2525.1	2517.6	2489.4	2439.7	2400.8	2358.3
23.5°	2315.4	2367.0	2425.0	2469.9	2494.2	2506.9	2498.1	2469.5	2420.3	2379.3	2336.0
24°	2292.3	2344.0	2403.2	2450.1	2475.5	2487.4	2478.3	2449.7	2400.4	2357.9	2313.8
24.5°	2268.9	2321.3	2381.3	2429.8	2456.0	2467.5	2458.0	2429.8	2380.1	2336.0	2290.7
25°	2245.1	2297.9	2359.1	2408.7	2436.2	2447.3	2438.1	2409.1	2359.1	2313.8	2266.9
25.5°	2219.6	2274.5	2336.8	2388.1	2416.7	2427.4	2417.1	2388.5	2337.2	2291.5	2243.5
26°	2193.4	2251.0	2314.2	2366.6	2396.8	2406.8	2396.0	2367.8	2314.2	2269.3	2219.6
26.5°	2166.8	2227.2	2290.7	2345.6	2375.8	2385.3	2374.2	2346.8	2290.0	2245.9	2195.4
27°	2139.4	2202.2	2267.3	2323.7	2353.5	2363.8	2352.7	2324.9	2264.9	2222.0	2170.8
27.5°	2111.2	2175.9	2243.1	2301.1	2330.5	2342.8	2330.5	2302.3	2239.1	2197.4	2145.3
28°	2082.6	2148.9	2218.8	2278.0	2306.2	2320.9	2307.8	2278.0	2212.9	2170.8	2120.3
28.5°	2053.6	2121.9	2194.6	2255.0	2281.2	2297.9	2284.8	2253.4	2185.9	2144.5	2095.3
29°	2023.0	2093.7	2169.2	2230.8	2255.8	2274.1	2262.1	2228.4	2158.5	2117.9	2069.9
29.5°	1993.2	2066.3	2144.5	2205.7	2229.2	2249.4	2238.3	2202.5	2129.4	2090.5	2044.0
30°	1962.6	2037.3	2119.1	2179.1	2201.8	2224.4	2214.5	2175.1	2100.4	2062.3	2017.4
30.5°	1931.2	2008.3	2094.1	2152.5	2173.5	2197.8	2190.2	2147.7	2071.0	2033.7	1991.6
31°	1899.8	1978.1	2067.9	2125.1	2144.9	2172.0	2166.4	2119.9	2041.3	2004.7	1965.4
31.5°	1868.0	1949.1	2042.4	2097.3	2115.5	2144.1	2141.4	2091.7	2011.1	1975.3	1938.8
32°	1836.6	1918.1	2015.8	2068.7	2086.1	2116.3	2116.7	2063.1	1980.1	1945.9	1911.7
32.5°	1804.5	1888.7	1989.6	2038.9	2056.3	2087.7	2091.7	2033.7	1949.5	1916.9	1884.7
33°	1771.5	1858.1	1963.0	2009.9	2025.8	2059.5	2066.7	2003.5	1917.7	1886.3	1856.9
33.5°	1738.5	1827.1	1936.4	1978.9	1994.4	2029.7	2041.3	1973.3	1885.5	1856.5	1828.3
34°	1705.5	1795.7	1907.4	1949.9	1963.8	2000.3	2015.4	1943.1	1852.9	1826.7	1799.7
34.5°	1671.4	1765.1	1880.4	1918.9	1932.0	1970.9	1989.2	1912.5	1818.8	1796.1	1769.5
35°	1636.8	1733.0	1851.7	1888.3	1900.2	1941.1	1962.6	1881.5	1785.4	1764.7	1740.1
35.5°	1604.2	1701.2	1823.9	1856.9	1866.8	1910.5	1935.2	1850.2	1752.0	1733.8	1709.9
36°	1569.3	1669.4	1794.5	1827.5	1833.9	1880.7	1907.0	1818.4	1719.1	1702.4	1680.1
36.5°	1538.7	1636.8	1765.5	1796.1	1800.5	1850.2	1878.4	1786.2	1684.1	1670.6	1650.3
37°	1488.6	1604.2	1735.7	1764.7	1766.3	1818.0	1849.4	1754.0	1646.0	1638.4	1619.3
37.5°	1438.2	1571.7	1706.7	1732.6	1732.6	1787.0	1820.0	1720.6	1598.3	1606.6	1589.1
38°	1372.2	1539.1	1676.5	1700.8	1696.4	1754.8	1790.6	1688.1	1544.2	1574.4	1559.3
38.5°	1311.4	1506.9	1647.1	1667.8	1659.9	1722.6	1760.8	1655.9	1483.1	1541.9	1530.3
39°	1249.9	1473.9	1616.6	1636.8	1611.8	1690.8	1730.6	1622.5	1417.1	1505.3	1500.1
39.5°	1187.5	1422.3	1587.2	1603.8	1561.3	1657.9	1700.4	1590.3	1347.2	1460.8	1470.7
40°	1121.1	1364.3	1557.4	1571.7	1501.3	1625.7	1670.2	1543.5	1279.3	1410.0	1442.1
40.5°	1056.0	1303.5	1528.0	1539.5	1434.6	1593.1	1640.4	1495.0	1214.1	1352.0	1414.7
41°	989.6	1243.9	1498.6	1495.8	1366.7	1547.8	1609.8	1439.4	1148.6	1291.2	1387.3
41.5°	924.9	1184.7	1470.0	1454.1	1298.3	1505.3	1581.2	1378.6	1085.8	1228.4	1360.7
42°	863.3	1124.3	1441.7	1401.6	1230.8	1450.5	1551.8	1316.2	1019.8	1165.2	1333.3
42.5°	805.7	1061.1	1413.9	1345.6	1164.8	1392.1	1523.6	1249.9	956.7	1104.9	1307.1
43°	748.1	997.6	1386.5	1285.6	1101.3	1329.3	1496.2	1188.7	890.7	1045.3	1279.7
43.5°	689.3	934.8	1358.3	1222.8	1036.9	1264.6	1468.4	1127.1	828.3	986.5	1253.0



TEST NUMBER: P776492

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	521.2	759.6	1277.3	1039.7	843.8	1076.6	1386.9	945.1	651.9	808.5	1172.8
45.5°	470.4	702.8	1250.3	982.1	782.7	1015.9	1359.5	883.6	595.5	750.9	1145.8
46°	421.9	647.2	1222.8	924.1	723.9	955.5	1331.3	823.6	541.1	694.5	1119.9
46.5°	373.4	592.4	1196.2	865.3	665.8	893.9	1304.7	764.8	487.9	641.6	1077.0
47°	328.6	537.5	1164.0	806.1	609.0	831.5	1276.9	707.2	436.6	587.6	1026.2
47.5°	287.2	487.1	1123.1	748.5	553.0	772.7	1248.3	651.9	392.9	536.3	966.6
48°	249.5	438.2	1075.1	692.9	500.2	715.5	1219.7	598.3	349.6	485.5	900.6
48.5°	216.9	391.3	1022.6	639.2	448.9	659.5	1180.3	545.1	306.3	437.8	835.1
49°	188.7	346.4	972.6	587.6	405.2	604.3	1129.9	492.6	263.0	394.5	768.0
49.5°	164.9	303.9	913.8	535.9	361.9	550.6	1077.4	443.0	226.8	351.2	702.8
50°	144.6	263.8	856.5	485.1	318.2	497.4	1015.5	400.5	194.7	307.5	638.8
50.5°	128.7	227.2	793.0	435.8	274.9	448.1	949.1	358.0	165.3	264.6	579.2
51°	112.4	196.3	726.6	388.9	232.0	404.4	880.4	315.8	139.4	229.2	520.4
51.5°	96.5	169.6	662.3	344.4	199.0	360.7	811.3	273.3	116.8	196.7	466.4
52°	80.6	147.4	599.9	303.5	167.7	317.0	744.1	231.2	95.3	166.5	421.1
52.5°	64.8	130.7	539.1	264.2	139.4	273.3	679.8	197.5	76.3	139.0	376.2
53°	56.4	114.4	484.3	227.6	115.2	230.0	618.6	166.9	61.2	115.2	331.3
53.5°	53.6	97.7	430.7	193.5	93.8	195.5	558.6	140.2	54.4	94.2	286.0
54°	51.6	81.4	380.6	163.3	73.5	163.7	502.2	116.4	52.0	75.1	241.2
54.5°	49.7	65.2	332.9	134.7	58.8	136.7	447.3	95.3	50.1	58.0	206.2
55°	47.7	53.2	290.8	114.0	53.6	111.6	399.7	75.9	47.7	46.5	176.0
55.5°	45.7	48.1	250.3	93.8	51.6	89.4	352.8	58.4	45.7	44.5	149.0
56°	43.7	46.1	214.1	73.1	49.3	69.5	305.5	47.3	44.1	42.9	125.5
56.5°	42.1	44.1	182.0	52.8	46.9	53.2	258.2	45.3	42.1	41.3	104.9
57°	40.5	42.5	153.4	45.3	44.9	45.7	220.9	43.3	40.5	39.7	87.8
57.5°	38.9	40.9	130.3	43.7	43.3	43.7	186.7	41.7	38.9	38.1	73.9
58°	37.3	39.3	113.6	42.1	41.3	42.1	155.7	40.1	37.3	36.9	62.8
58.5°	35.8	38.1	96.9	40.5	39.7	40.5	128.7	38.9	35.8	35.4	54.0
59°	34.2	36.6	80.3	38.9	38.1	38.9	104.9	37.3	34.2	34.2	46.9
59.5°	33.0	35.4	63.6	37.7	36.6	37.3	85.0	36.2	33.0	33.0	41.7
60°	31.8	34.2	55.2	36.2	35.0	36.2	69.9	35.0	31.8	31.8	37.7
60.5°	30.6	33.0	48.1	35.0	33.4	35.0	58.4	33.4	30.2	31.0	34.2
61°	29.4	31.8	42.5	33.8	32.2	33.4	49.7	32.6	29.0	29.8	32.2
61.5°	28.2	30.6	37.7	32.6	31.0	32.2	43.3	31.4	27.8	28.6	31.0
62°	27.0	29.4	34.6	31.4	29.8	31.4	38.5	30.2	26.6	27.8	29.8
62.5°	25.8	28.6	32.2	30.2	28.6	30.2	35.0	29.0	25.4	26.6	28.6
63°	24.6	27.4	31.0	29.4	27.0	29.0	32.2	28.2	24.2	25.8	27.4
63.5°	23.8	26.6	30.2	28.2	25.8	27.8	31.0	27.0	23.4	24.6	26.6
64°	22.6	25.4	29.0	27.0	25.0	27.0	29.8	26.2	22.2	23.8	25.4
64.5°	21.9	24.6	28.2	26.2	23.8	25.8	28.6	25.0	21.5	23.0	24.6
65°	21.1	23.8	27.0	25.4	22.6	25.0	27.4	24.2	20.7	22.2	23.8
65.5°	20.3	23.0	26.2	24.2	21.9	24.2	26.2	23.4	19.5	21.5	23.0
66°	19.1	21.9	25.0	23.4	21.1	23.0	25.4	22.2	18.7	20.7	22.2



TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	17.1	19.5	22.6	21.1	18.3	20.7	23.0	19.9	16.3	18.3	19.9
68°	16.3	18.7	21.9	20.3	17.5	19.9	21.9	19.1	15.9	17.5	19.1
68.5°	15.5	18.3	21.1	19.5	16.7	19.1	21.1	18.3	15.1	16.7	18.3
69°	14.7	17.5	20.3	18.7	15.9	18.3	20.3	17.9	14.3	16.3	17.5
69.5°	14.3	16.7	19.5	17.9	15.5	17.9	19.5	17.1	13.9	15.5	16.7
70°	13.5	15.9	18.7	17.1	14.7	17.1	18.7	16.3	13.1	14.7	15.9
70.5°	13.1	15.5	17.9	16.7	13.9	16.3	18.3	15.5	12.7	14.3	15.5
71°	12.3	14.7	17.1	15.9	13.5	15.9	17.5	15.1	11.9	13.5	14.7
71.5°	11.9	14.3	16.3	15.1	12.7	15.1	16.7	14.3	11.5	13.1	13.9
72°	11.1	13.5	15.9	14.7	12.3	14.3	15.9	13.9	10.7	12.3	13.5
72.5°	10.7	13.1	15.1	13.9	11.5	13.9	15.1	13.1	10.3	11.9	12.7
73°	10.3	12.3	14.3	13.5	11.1	13.1	14.7	12.7	9.9	11.5	12.3
73.5°	9.5	11.9	13.9	12.7	10.7	12.7	13.9	11.9	9.5	10.7	11.5
74°	9.1	11.1	13.1	12.3	10.3	12.3	13.5	11.5	8.7	10.3	11.1
74.5°	8.7	10.7	12.3	11.5	9.5	11.5	12.7	11.1	8.3	9.9	10.3
75°	8.3	10.3	11.9	11.1	9.1	11.1	12.3	10.3	7.9	9.1	9.9
75.5°	7.9	9.5	11.1	10.7	8.7	10.7	11.5	9.9	7.5	8.7	9.5
76°	7.5	9.1	10.7	10.3	8.3	10.3	11.1	9.5	7.2	8.3	8.7
76.5°	7.2	8.7	10.3	9.5	7.9	9.5	10.3	8.7	6.8	7.9	8.3
77°	6.8	8.3	9.5	9.1	7.5	9.1	9.9	8.3	6.4	7.5	7.9
77.5°	6.4	7.9	9.1	8.7	7.2	8.7	9.5	7.9	6.0	7.2	7.5
78°	6.0	7.5	8.7	8.3	6.8	8.3	8.7	7.5	5.6	6.8	6.8
78.5°	5.6	6.8	7.9	7.9	6.4	7.9	8.3	7.2	5.2	6.0	6.4
79°	5.2	6.4	7.5	7.2	6.0	7.5	7.9	6.8	5.2	5.6	6.0
79.5°	4.8	6.0	7.2	6.8	5.6	7.2	7.5	6.4	4.8	5.2	5.6
80°	4.4	5.6	6.8	6.4	5.2	6.4	6.8	6.0	4.4	4.8	5.2
80.5°	4.0	5.2	6.4	6.0	5.2	6.0	6.4	5.2	4.0	4.4	4.8
81°	3.6	4.8	6.0	5.6	4.8	5.6	6.0	4.8	3.6	4.0	4.4
81.5°	3.6	4.4	5.2	5.2	4.4	5.6	5.6	4.8	3.6	4.0	4.0
82°	3.2	4.0	4.8	4.8	4.0	5.2	5.2	4.4	3.2	3.6	3.6
82.5°	2.8	3.6	4.4	4.4	3.6	4.8	4.8	4.0	2.8	3.2	3.2
83°	2.4	3.2	4.0	4.0	3.6	4.4	4.4	3.6	2.4	2.8	2.8
83.5°	2.4	2.8	3.6	3.6	3.2	4.0	4.0	3.2	2.4	2.4	2.4
84°	2.0	2.8	3.2	3.6	2.8	3.6	3.6	2.8	2.0	2.0	2.0
84.5°	1.6	2.4	2.8	3.2	2.8	3.2	3.2	2.4	1.6	1.6	2.0
85°	1.6	2.0	2.4	2.8	2.4	2.8	2.8	2.0	1.6	1.6	1.6
85.5°	1.2	1.6	2.4	2.4	2.4	2.8	2.4	1.6	1.2	1.2	1.2
86°	0.8	1.2	2.0	2.0	2.0	2.4	2.0	1.6	1.2	0.8	0.8
86.5°	0.8	0.8	1.6	2.0	1.6	2.0	2.0	1.2	0.8	0.8	0.8
87°	0.4	0.8	1.2	1.6	1.6	1.6	1.6	0.8	0.8	0.4	0.4
87.5°	0.4	0.4	1.2	1.2	1.2	1.6	1.2	0.8	0.4	0.4	0.4
88°	0.4	0.4	0.8	1.2	1.2	1.2	1.2	0.4	0.4	0.0	0.0
88.5°	0.0	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.0	0.0



TEST NUMBER: P776492
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

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	0.4	0.0	0.4	0.0	0.0	0.0	0.0



TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2888.3	2888.3	2888.3	2888.3	2888.3	2888.3
0.5°	2887.5	2884.7	2885.9	2887.5	2888.3	2887.5
1°	2885.1	2881.9	2883.1	2884.7	2886.3	2885.9
1.5°	2882.3	2878.7	2879.9	2881.9	2883.5	2884.3
2°	2879.5	2875.6	2876.3	2878.7	2880.7	2882.3
2.5°	2876.3	2872.0	2872.8	2875.2	2877.5	2879.9
3°	2873.2	2867.6	2868.8	2870.8	2874.4	2877.1
3.5°	2868.8	2862.8	2863.6	2866.8	2870.4	2874.0
4°	2864.4	2857.3	2858.5	2862.0	2866.8	2870.8
4.5°	2859.3	2850.9	2852.1	2856.5	2862.4	2867.2
5°	2853.3	2844.2	2845.4	2850.9	2857.3	2862.8
5.5°	2846.9	2836.2	2837.8	2845.0	2852.1	2858.1
6°	2839.8	2828.7	2830.3	2838.2	2846.2	2852.5
6.5°	2832.2	2819.5	2821.5	2830.7	2839.8	2846.2
7°	2824.3	2810.4	2812.4	2822.7	2832.2	2839.0
7.5°	2815.2	2800.5	2802.4	2814.0	2824.3	2831.5
8°	2806.0	2790.5	2792.5	2804.8	2815.6	2822.7
8.5°	2796.5	2779.8	2782.2	2794.9	2805.6	2813.6
9°	2786.6	2768.7	2771.5	2784.2	2795.7	2804.4
9.5°	2776.2	2757.2	2759.9	2773.1	2785.0	2794.1
10°	2765.9	2745.6	2748.4	2761.1	2774.2	2784.2
10.5°	2754.4	2732.9	2736.1	2748.8	2762.7	2773.4
11°	2742.9	2719.8	2723.4	2735.7	2750.8	2761.9
11.5°	2730.9	2706.7	2710.3	2722.6	2738.1	2750.0
12°	2718.2	2692.4	2696.4	2708.7	2725.0	2737.3
12.5°	2704.7	2677.7	2682.1	2694.0	2711.1	2724.6
13°	2691.2	2662.6	2667.4	2679.3	2697.2	2711.1
13.5°	2676.5	2646.7	2651.9	2664.6	2682.5	2696.8
14°	2661.8	2630.8	2635.6	2648.7	2667.4	2682.1
14.5°	2646.7	2614.9	2619.3	2632.4	2651.1	2666.6
15°	2630.8	2597.8	2602.2	2616.1	2635.2	2651.5
15.5°	2614.9	2580.0	2585.1	2598.6	2618.1	2634.8
16°	2598.2	2562.5	2567.3	2581.2	2600.6	2618.1
16.5°	2581.2	2544.6	2549.4	2563.3	2583.1	2601.4
17°	2563.3	2525.9	2530.3	2544.2	2565.3	2583.9
17.5°	2545.4	2506.9	2511.2	2525.1	2546.2	2565.7
18°	2526.7	2486.6	2491.4	2505.3	2527.5	2547.4
18.5°	2507.7	2466.7	2471.5	2485.4	2507.7	2528.3
19°	2488.6	2446.1	2450.9	2465.2	2487.8	2508.9
19.5°	2468.3	2425.0	2429.4	2444.5	2467.5	2489.4
20°	2448.5	2403.6	2408.3	2423.0	2446.9	2469.1
20.5°	2427.4	2382.1	2386.1	2401.6	2425.8	2448.1
21°	2406.0	2360.3	2363.8	2379.7	2403.6	2426.6

TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2340.4	2293.1	2295.1	2311.4	2336.4	2360.7
23°	2318.2	2269.7	2271.3	2288.4	2312.6	2338.0
23.5°	2295.5	2246.3	2248.6	2264.9	2289.2	2315.4
24°	2272.9	2221.2	2224.0	2240.7	2265.7	2292.3
24.5°	2249.0	2195.8	2200.2	2216.1	2241.5	2268.9
25°	2225.6	2168.4	2175.1	2191.0	2217.2	2245.1
25.5°	2201.4	2141.0	2149.7	2166.4	2192.2	2219.6
26°	2176.7	2112.8	2122.7	2141.4	2167.6	2193.4
26.5°	2149.7	2084.2	2096.1	2115.9	2142.6	2166.8
27°	2122.7	2054.4	2067.9	2089.3	2116.7	2139.4
27.5°	2095.3	2024.6	2039.3	2063.1	2090.1	2111.2
28°	2066.7	1993.6	2009.5	2036.9	2062.3	2082.6
28.5°	2037.7	1962.6	1980.5	2009.5	2034.1	2053.6
29°	2008.3	1930.8	1950.7	1983.6	2005.9	2023.0
29.5°	1979.3	1900.2	1920.5	1957.0	1977.3	1993.2
30°	1948.7	1868.4	1889.5	1929.6	1946.7	1962.6
30.5°	1918.1	1835.9	1858.9	1901.8	1917.3	1931.2
31°	1887.1	1802.9	1827.5	1875.2	1887.1	1899.8
31.5°	1855.7	1771.1	1796.1	1847.0	1856.9	1868.0
32°	1824.7	1738.1	1764.3	1818.8	1825.5	1836.6
32.5°	1794.1	1704.8	1733.4	1789.4	1795.7	1804.5
33°	1762.4	1671.4	1701.6	1761.6	1765.1	1771.5
33.5°	1730.2	1636.8	1669.8	1732.6	1733.8	1738.5
34°	1698.0	1603.8	1637.2	1703.2	1702.8	1705.5
34.5°	1665.8	1569.7	1604.2	1673.0	1671.8	1671.4
35°	1633.6	1537.5	1572.1	1642.8	1640.4	1636.8
35.5°	1601.9	1499.0	1539.5	1613.0	1609.8	1604.2
36°	1568.9	1447.7	1506.5	1582.8	1577.6	1569.3
36.5°	1536.7	1386.5	1474.3	1552.6	1545.8	1538.7
37°	1504.5	1323.4	1443.3	1522.0	1514.1	1488.6
37.5°	1472.3	1261.8	1409.2	1491.8	1482.3	1438.2
38°	1442.9	1197.0	1359.9	1462.0	1450.5	1372.2
38.5°	1393.3	1133.1	1302.3	1432.6	1417.5	1311.4
39°	1338.9	1066.7	1243.5	1404.0	1389.3	1249.9
39.5°	1279.7	1000.4	1185.5	1374.6	1339.6	1187.5
40°	1220.5	936.8	1127.1	1346.0	1288.8	1121.1
40.5°	1161.7	874.0	1067.5	1318.2	1230.0	1056.0
41°	1100.5	814.4	1005.1	1290.8	1172.4	989.6
41.5°	1038.9	756.4	943.2	1263.4	1117.2	924.9
42°	975.3	698.4	883.2	1236.0	1061.5	863.3
42.5°	914.6	640.0	826.4	1209.7	1003.5	805.7
43°	855.0	584.0	770.7	1183.1	943.6	748.1
43.5°	798.1	530.4	715.5	1156.9	883.6	689.3



TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	631.7	381.4	554.6	1077.4	717.9	521.2
45.5°	577.7	336.5	503.4	1037.7	664.3	470.4
46°	524.0	293.2	456.1	995.2	611.4	421.9
46.5°	474.4	255.5	408.4	945.5	559.4	373.4
47°	427.1	221.3	363.1	900.2	508.5	328.6
47.5°	383.8	191.9	319.0	845.0	460.1	287.2
48°	340.9	167.3	278.9	789.0	413.2	249.5
48.5°	297.6	147.0	242.3	724.3	368.3	216.9
49°	254.7	131.1	209.4	664.3	325.4	188.7
49.5°	219.3	115.2	180.4	604.7	284.5	164.9
50°	189.1	99.3	156.9	549.8	246.7	144.6
50.5°	162.5	83.4	135.9	496.6	212.2	128.7
51°	141.0	67.5	120.4	448.1	182.8	112.4
51.5°	122.8	56.8	104.9	400.1	158.1	96.5
52°	106.9	53.2	89.4	356.8	136.3	80.6
52.5°	91.8	50.9	73.9	314.3	120.4	64.8
53°	76.7	48.9	60.0	275.7	104.1	56.4
53.5°	62.4	46.9	49.3	239.6	88.2	53.6
54°	51.2	44.9	45.7	208.2	71.9	51.6
54.5°	45.7	42.9	44.1	178.8	58.0	49.7
55°	44.1	41.3	42.5	153.4	48.1	47.7
55.5°	42.5	39.7	40.9	135.5	45.3	45.7
56°	40.9	38.1	39.3	118.0	43.7	43.7
56.5°	39.3	36.6	37.7	100.5	42.1	42.1
57°	38.1	35.0	36.6	82.6	40.5	40.5
57.5°	36.6	33.4	35.0	65.6	38.9	38.9
58°	35.4	32.2	33.8	56.4	37.7	37.3
58.5°	34.2	31.0	32.6	48.9	36.6	35.8
59°	33.0	29.8	31.4	42.9	35.4	34.2
59.5°	31.8	28.6	30.2	38.1	34.2	33.0
60°	30.6	27.4	29.4	34.6	33.0	31.8
60.5°	29.8	26.2	28.2	32.6	31.8	30.6
61°	28.6	25.0	27.4	31.4	30.6	29.4
61.5°	27.4	24.2	26.2	30.2	29.4	28.2
62°	26.6	23.0	25.4	29.0	28.6	27.0
62.5°	25.4	22.2	24.2	28.2	27.4	25.8
63°	24.6	21.1	23.4	27.0	26.6	24.6
63.5°	23.8	20.3	22.6	26.2	25.4	23.8
64°	22.6	19.5	21.9	25.4	24.6	22.6
64.5°	21.9	18.7	21.1	24.2	23.8	21.9
65°	21.1	17.9	20.3	23.4	23.0	21.1
65.5°	20.3	17.1	19.5	22.6	21.9	20.3
66°	19.5	16.3	18.7	21.9	21.1	19.1



TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	17.5	14.3	16.7	19.5	18.7	17.1
68°	16.7	13.5	15.9	18.7	17.9	16.3
68.5°	15.9	13.1	15.5	17.9	17.5	15.5
69°	15.5	12.3	14.7	17.1	16.7	14.7
69.5°	14.7	11.9	14.3	16.7	15.9	14.3
70°	14.3	11.5	13.5	15.9	15.1	13.5
70.5°	13.5	10.7	13.1	15.1	14.7	13.1
71°	13.1	10.3	12.3	14.7	13.9	12.3
71.5°	12.3	9.9	11.9	13.9	13.5	11.9
72°	11.9	9.5	11.5	13.1	12.7	11.1
72.5°	11.5	8.7	10.7	12.7	12.3	10.7
73°	10.7	8.3	10.3	11.9	11.5	10.3
73.5°	10.3	7.9	9.9	11.5	11.1	9.5
74°	9.9	7.5	9.5	10.7	10.3	9.1
74.5°	9.1	7.2	8.7	10.3	9.9	8.7
75°	8.7	6.8	8.3	9.9	9.5	8.3
75.5°	8.3	6.4	7.9	9.1	9.1	7.9
76°	7.9	6.0	7.5	8.7	8.3	7.5
76.5°	7.5	6.0	7.2	8.3	7.9	7.2
77°	7.2	5.6	6.8	7.5	7.5	6.8
77.5°	6.8	5.2	6.4	7.2	7.2	6.4
78°	6.4	4.8	6.0	6.8	6.8	6.0
78.5°	6.0	4.4	5.6	6.4	6.0	5.6
79°	5.6	4.0	5.2	6.0	5.6	5.2
79.5°	5.2	4.0	4.8	5.6	5.2	4.8
80°	4.8	3.6	4.4	4.8	4.8	4.4
80.5°	4.4	3.2	4.0	4.4	4.4	4.0
81°	4.0	3.2	3.6	4.0	4.0	3.6
81.5°	3.6	2.8	3.2	3.6	3.6	3.6
82°	3.2	2.4	3.2	3.2	3.2	3.2
82.5°	2.8	2.4	2.8	3.2	2.8	2.8
83°	2.4	2.0	2.4	2.8	2.4	2.4
83.5°	2.4	1.6	2.0	2.4	2.0	2.4
84°	2.0	1.6	1.6	2.0	1.6	2.0
84.5°	1.6	1.2	1.6	1.6	1.6	1.6
85°	1.2	1.2	1.2	1.6	1.2	1.6
85.5°	1.2	0.8	0.8	1.2	0.8	1.2
86°	0.8	0.4	0.8	0.8	0.8	0.8
86.5°	0.4	0.4	0.4	0.8	0.4	0.8
87°	0.4	0.0	0.4	0.4	0.4	0.4
87.5°	0.0	0.0	0.0	0.0	0.4	0.4
88°	0.0	0.0	0.0	0.0	0.0	0.4
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776492

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRH-4000lm-3500K

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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Scaled Data Report



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Scaled Data Report





21.5°	2404.8	2454.0	2505.7	2545.8	2566.9	2579.2	2572.4	2545.0	2498.1	2461.6	2423.0
22°	2382.9	2433.0	2485.8	2527.5	2549.4	2561.7	2554.9	2526.7	2479.1	2442.1	2402.0



44°	630.1	874.0	1330.9	1160.9	973.0	1200.6	1441.0	1066.7	766.8	926.9	1225.2
44.5°	574.9	816.0	1303.9	1099.7	908.2	1137.0	1413.9	1004.3	709.6	867.7	1199.4



66.5°	18.3	21.1	24.2	22.6	19.9	22.2	24.6	21.5	17.9	19.9	21.1
67°	17.5	20.3	23.4	21.9	19.1	21.5	23.8	20.7	17.1	19.1	20.3



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

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21.5°	2384.1	2338.0	2341.2	2357.5	2381.3	2404.8
22°	2362.7	2315.4	2318.2	2334.8	2358.7	2382.9



44°	740.9	477.9	661.1	1130.7	825.2	630.1
44.5°	686.1	430.3	607.4	1104.1	771.5	574.9

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66.5°	18.7	15.5	17.9	21.1	20.3	18.3
67°	18.3	15.1	17.5	20.3	19.5	17.5

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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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Scaled Data Report



(END OF REPORT)