

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: P776611

Luminaire Tested: HCDJBS4050CSD-HCD4TRMB-5000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776611  
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: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K  
Description: 4 INCH ROUND MEDIUM MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2943.7 lumens  
Efficiency: N/A  
Efficacy: 61.3 lumens/watt  
Spacing Criteria (0/90/45): 0.95 / 0.95 / 0.94  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

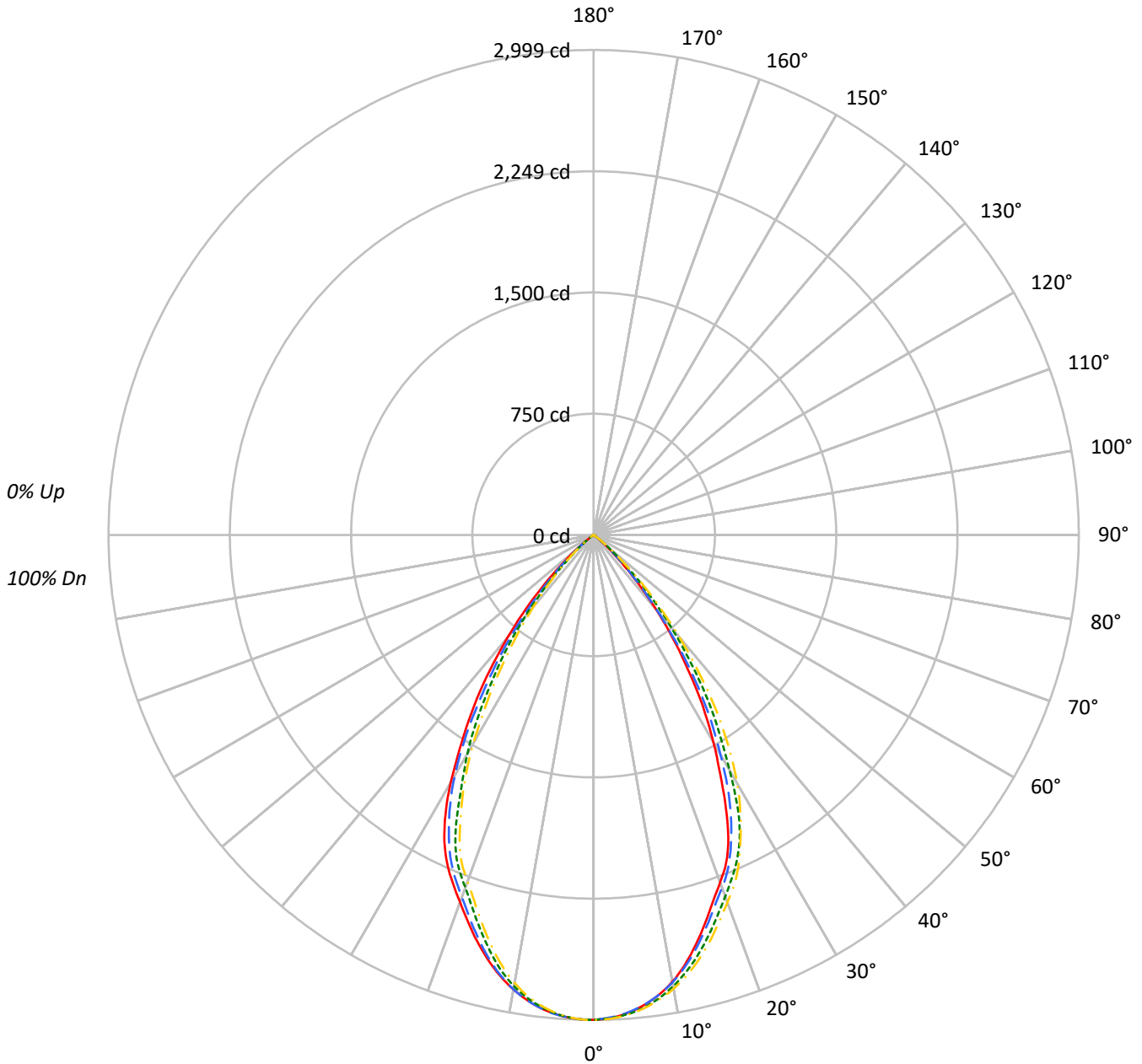
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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								
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86								
3	102	95	90	86	100	94	89	85	91	87	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74								
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69								
6	87	77	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64								
7	82	72	66	62	81	72	66	62	70	65	61	69	65	61	68	64	61	59								
8	78	68	62	58	77	67	62	57	66	61	57	65	60	57	64	60	57	55								
9	74	64	58	54	73	63	58	54	62	57	53	62	57	53	61	56	53	52								
10	70	60	54	50	69	60	54	50	59	54	50	58	53	50	57	53	50	48								

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

	0°	90°	180°	270°
0°	377361	377361	377361	377361
5°	372397	373698	374810	374103
10°	358467	362033	364767	362148
15°	332889	342101	346700	338218
20°	306196	318531	323567	310683
25°	271902	295272	301076	280289
30°	215174	244150	256648	226726
35°	156415	185836	197912	166632
40°	97914	122737	136176	107607
45°	44263	65781	75783	50546
50°	12824	20107	26216	15115
55°	2041	2041	2765	2545
60°	831	831	931	831
65°	566	566	566	566
70°	331	515	515	515
75°	243	438	243	438
80°	0	362	362	362
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 180°

Vertical Angle: 45°

Luminance: 75783 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.4	9.5
10°-20°	730.2	24.8
20°-30°	931.9	31.7
30°-40°	712.5	24.2
40°-50°	266.3	9.0
50°-60°	21.7	0.7
60°-70°	2.0	0.1
70°-80°	0.8	0.0
80°-90°	0.1	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1940.4	65.9
0°-40°	2652.9	90.1
0°-60°	2940.8	99.9
0°-90°	2943.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2943.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2998	2998	2998	2998	2998	
5°	2948	2958	2967	2961	2948	277
15°	2555	2626	2661	2596	2555	715
25°	1958	2126	2168	2018	1958	881
35°	1018	1210	1288	1085	1018	634
45°	249	370	426	284	249	209
55°	9	9	13	12	9	15
65°	2	2	2	2	2	2
75°	0	1	0	1	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5
0.5°	2997.6	2995.3	2995.3	2995.3	2997.6	2998.0	2999.4	3000.4	2999.0	2997.6	2997.6
1°	2995.7	2993.4	2992.9	2993.4	2995.7	2996.6	2998.0	2999.0	2998.5	2997.6	2997.1
1.5°	2992.9	2990.1	2989.7	2990.1	2993.4	2994.8	2996.2	2997.6	2996.6	2996.2	2996.6
2°	2989.2	2986.4	2985.5	2986.4	2990.6	2992.0	2993.4	2994.8	2994.8	2994.3	2994.8
2.5°	2984.6	2981.3	2980.8	2982.2	2986.9	2988.3	2989.7	2991.5	2992.0	2991.5	2992.0
3°	2979.0	2975.7	2975.3	2977.1	2982.2	2984.1	2985.5	2987.4	2988.3	2988.3	2988.7
3.5°	2972.5	2968.8	2969.2	2971.5	2977.1	2979.0	2980.8	2982.7	2984.1	2984.6	2984.6
4°	2965.0	2961.8	2961.8	2964.6	2971.5	2973.4	2974.8	2977.1	2979.0	2979.9	2979.9
4.5°	2956.7	2953.4	2953.9	2957.6	2965.5	2967.4	2968.8	2971.1	2973.4	2974.3	2974.3
5°	2947.8	2944.1	2944.6	2949.2	2958.1	2959.9	2961.3	2964.1	2966.9	2968.3	2967.8
5.5°	2937.6	2933.4	2935.3	2939.9	2949.7	2951.6	2953.4	2956.2	2959.5	2960.9	2959.9
6°	2926.9	2922.7	2924.6	2930.2	2940.9	2942.7	2944.6	2947.8	2951.6	2953.0	2951.6
6.5°	2915.3	2911.6	2913.9	2919.5	2930.6	2933.4	2935.3	2938.5	2942.7	2944.1	2942.7
7°	2902.7	2899.0	2901.8	2907.4	2919.5	2922.7	2925.1	2928.8	2932.5	2934.4	2933.0
7.5°	2889.3	2886.0	2888.3	2894.4	2907.4	2911.1	2914.4	2917.6	2921.3	2923.7	2922.3
8°	2874.8	2872.1	2874.4	2880.9	2894.4	2898.6	2902.7	2906.5	2910.2	2911.6	2910.2
8.5°	2859.0	2857.2	2860.0	2866.0	2880.4	2885.1	2890.7	2893.9	2897.2	2899.5	2897.6
9°	2842.3	2840.9	2844.2	2850.2	2865.6	2871.6	2877.6	2880.9	2884.1	2885.5	2884.1
9.5°	2823.7	2823.7	2827.4	2833.9	2849.7	2856.7	2863.7	2867.9	2869.7	2871.1	2869.7
10°	2805.1	2805.1	2809.3	2816.3	2833.0	2841.4	2848.8	2853.0	2854.4	2855.3	2853.9
10.5°	2785.6	2785.6	2790.2	2798.1	2816.7	2824.6	2833.0	2837.7	2838.6	2839.1	2837.2
11°	2763.3	2764.2	2770.3	2778.2	2798.1	2807.4	2816.7	2821.4	2822.3	2821.9	2819.5
11.5°	2740.5	2742.4	2749.3	2757.7	2779.1	2789.8	2800.0	2804.2	2804.2	2803.7	2800.5
12°	2716.3	2719.1	2727.0	2736.3	2760.0	2771.2	2781.9	2786.5	2786.5	2784.7	2781.4
12.5°	2691.2	2694.5	2703.3	2714.5	2739.1	2751.2	2762.8	2767.9	2767.5	2764.7	2761.0
13°	2665.2	2669.4	2679.6	2691.7	2717.7	2730.7	2743.8	2748.9	2747.5	2743.8	2738.2
13.5°	2638.2	2643.8	2654.5	2667.5	2696.3	2709.8	2722.8	2727.9	2727.0	2722.8	2716.3
14°	2610.8	2617.3	2629.9	2643.8	2672.6	2688.4	2701.4	2707.5	2705.6	2700.1	2692.6
14.5°	2582.9	2590.3	2603.8	2619.2	2649.4	2666.1	2679.1	2685.2	2683.3	2677.3	2668.0
15°	2555.0	2562.9	2577.3	2593.6	2625.7	2642.9	2656.8	2662.9	2661.0	2653.6	2643.3
15.5°	2526.2	2535.5	2550.4	2568.5	2602.0	2619.2	2634.0	2639.6	2637.8	2629.9	2617.8
16°	2497.4	2507.6	2524.3	2542.5	2576.9	2595.9	2610.8	2616.4	2614.0	2605.2	2592.2
16.5°	2469.5	2480.6	2497.8	2516.9	2552.2	2571.7	2586.2	2593.6	2590.3	2580.6	2566.2
17°	2441.6	2452.7	2470.9	2491.3	2527.1	2547.1	2562.4	2569.0	2565.7	2555.0	2540.1
17.5°	2413.7	2425.3	2444.4	2465.8	2501.5	2522.0	2537.3	2543.4	2540.6	2529.4	2513.2
18°	2385.8	2398.3	2417.9	2439.7	2476.4	2497.4	2512.7	2519.7	2515.5	2503.9	2487.1
18.5°	2358.8	2372.8	2391.8	2414.1	2450.9	2472.7	2488.5	2494.6	2489.9	2477.8	2460.2
19°	2333.7	2348.1	2368.1	2389.5	2426.2	2448.5	2463.9	2469.9	2464.8	2452.3	2433.7
19.5°	2310.0	2324.9	2344.0	2365.8	2402.5	2424.4	2440.6	2446.2	2441.1	2426.7	2407.6
20°	2286.3	2301.6	2320.7	2342.6	2378.4	2400.7	2418.3	2423.0	2416.0	2402.5	2383.0
20.5°	2263.1	2277.9	2297.5	2318.8	2355.1	2377.9	2395.1	2400.2	2393.2	2378.4	2358.8
21°	2239.4	2254.7	2273.3	2295.1	2331.9	2355.1	2371.4	2377.4	2370.0	2355.1	2335.1



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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°	2156.1	2170.5	2188.7	2217.5	2261.2	2284.0	2298.9	2305.8	2300.3	2284.9	2262.6
23°	2122.7	2137.5	2156.6	2190.5	2236.6	2258.4	2271.4	2279.8	2276.5	2260.3	2236.1
23.5°	2086.4	2102.2	2123.1	2159.9	2211.0	2231.0	2241.2	2250.5	2251.0	2235.2	2207.7
24°	2046.0	2062.7	2087.8	2127.8	2185.0	2201.7	2209.1	2220.8	2224.5	2209.1	2178.0
24.5°	2003.2	2019.9	2050.1	2093.8	2156.6	2171.9	2177.1	2188.7	2197.0	2181.2	2145.4
25°	1958.1	1974.4	2013.4	2059.4	2126.4	2139.9	2143.1	2155.7	2168.2	2152.9	2112.0
25.5°	1910.7	1927.9	1974.8	2021.8	2094.8	2105.9	2106.9	2120.8	2137.5	2122.2	2077.1
26°	1861.4	1880.5	1936.2	1985.5	2060.4	2070.1	2071.5	2085.5	2104.5	2090.1	2041.8
26.5°	1811.2	1833.0	1894.4	1947.4	2022.7	2032.9	2036.7	2049.7	2069.2	2055.3	2004.1
27°	1760.5	1786.6	1852.1	1907.9	1982.3	1995.3	2001.8	2013.9	2031.5	2017.1	1966.5
27.5°	1712.2	1740.5	1807.9	1867.4	1937.6	1956.7	1966.5	1977.6	1993.0	1977.6	1929.3
28°	1663.4	1696.8	1761.4	1824.2	1890.7	1917.2	1930.2	1941.4	1950.2	1935.3	1889.3
28.5°	1615.9	1654.5	1714.0	1778.7	1839.6	1875.3	1893.9	1904.2	1907.0	1892.1	1848.8
29°	1570.4	1612.7	1666.1	1732.2	1787.5	1833.0	1856.8	1866.5	1862.8	1844.7	1806.5
29.5°	1525.3	1570.4	1616.9	1682.9	1734.0	1788.9	1816.3	1826.1	1814.4	1796.3	1761.9
30°	1480.7	1527.1	1568.1	1631.3	1680.1	1742.4	1774.5	1785.6	1766.1	1746.1	1714.5
30.5°	1436.5	1482.5	1521.1	1577.4	1629.0	1694.5	1730.3	1741.9	1714.5	1693.6	1667.1
31°	1391.4	1436.5	1473.2	1524.8	1579.2	1645.2	1687.1	1699.2	1664.3	1641.0	1617.8
31.5°	1346.3	1389.1	1427.2	1469.5	1531.3	1595.5	1642.0	1652.7	1614.1	1588.0	1568.5
32°	1300.7	1341.2	1379.8	1415.6	1486.2	1544.8	1597.8	1606.2	1566.2	1536.9	1516.5
32.5°	1255.2	1290.5	1332.8	1363.0	1440.2	1495.1	1553.2	1557.4	1517.8	1487.2	1466.7
33°	1207.8	1240.8	1284.9	1309.1	1396.5	1445.8	1507.6	1509.5	1471.8	1437.9	1413.7
33.5°	1159.4	1191.0	1236.6	1256.1	1350.0	1397.0	1460.2	1461.1	1424.4	1389.5	1360.3
34°	1111.5	1143.6	1186.9	1204.5	1303.5	1350.5	1413.3	1412.8	1380.2	1341.7	1305.9
34.5°	1065.1	1094.3	1137.6	1154.3	1255.7	1304.9	1364.4	1362.6	1333.8	1295.2	1254.3
35°	1018.1	1048.3	1088.3	1104.6	1209.6	1261.2	1315.6	1314.2	1288.2	1249.1	1200.8
35.5°	973.9	1004.2	1037.6	1056.2	1158.5	1215.7	1264.0	1265.4	1241.7	1202.7	1150.6
36°	930.2	959.5	987.0	1009.3	1109.2	1169.7	1213.4	1216.6	1197.1	1155.7	1101.8
36.5°	887.5	915.8	937.7	963.2	1060.9	1124.6	1161.7	1167.3	1149.2	1107.8	1054.4
37°	845.2	871.2	886.1	917.7	1013.4	1079.5	1111.1	1117.1	1101.8	1059.0	1006.5
37.5°	803.3	828.0	836.3	873.1	966.0	1032.5	1059.9	1069.7	1053.9	1010.7	961.8
38°	761.5	783.3	787.5	828.0	921.4	985.1	1012.5	1022.7	1006.9	962.3	916.3
38.5°	719.6	739.2	742.0	784.3	876.8	937.2	963.7	976.7	961.4	914.9	871.2
39°	678.7	695.9	698.3	741.5	834.5	890.7	915.8	930.7	916.8	871.7	826.6
39.5°	636.4	650.8	654.6	701.5	789.8	844.2	868.4	885.1	872.1	824.7	782.9
40°	596.0	607.6	611.8	659.7	747.1	799.6	821.0	838.7	828.9	781.5	739.2
40.5°	555.5	565.3	572.7	620.6	705.2	755.4	774.0	793.6	785.2	740.1	695.9
41°	516.0	524.4	533.7	582.0	664.3	713.1	728.9	748.0	744.7	701.0	652.2
41.5°	477.0	484.9	496.0	543.9	622.0	670.4	685.2	702.0	702.9	659.7	610.9
42°	441.2	445.8	459.3	505.3	580.6	629.5	642.0	657.8	659.7	621.6	569.5
42.5°	405.4	409.6	424.9	470.5	541.6	588.5	599.7	615.5	618.3	583.0	530.4
43°	371.9	374.2	390.5	435.6	503.9	547.6	558.3	574.1	578.3	547.2	492.8
43.5°	338.4	340.3	358.9	401.2	467.7	506.3	519.7	533.7	537.9	508.1	456.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	248.7	246.4	270.1	305.9	369.6	392.8	411.4	423.0	425.8	407.2	358.9
45.5°	221.8	219.0	244.5	277.1	337.0	355.6	376.6	388.2	391.0	374.2	326.3
46°	196.6	193.9	219.9	249.6	304.5	318.4	341.7	353.3	356.1	341.2	297.1
46.5°	172.5	170.1	197.1	224.5	274.3	285.9	307.3	318.9	321.2	308.7	269.6
47°	155.3	153.4	174.8	200.4	245.0	255.2	276.1	286.4	288.7	278.5	243.1
47.5°	138.5	136.2	157.6	177.1	217.1	226.4	246.4	256.2	259.4	250.6	218.5
48°	121.8	119.0	140.4	155.3	190.6	199.9	219.4	227.3	231.0	224.1	195.7
48.5°	105.1	102.3	123.2	136.2	166.0	174.8	193.4	200.8	204.5	197.1	174.3
49°	88.3	85.1	106.0	119.9	142.7	152.5	168.8	175.3	179.0	172.9	153.9
49.5°	76.7	73.9	88.8	105.1	121.3	131.6	146.0	152.0	155.7	150.6	135.3
50°	65.5	63.2	75.3	90.2	102.7	112.5	124.6	131.1	133.9	129.7	118.1
50.5°	55.8	53.9	63.2	75.3	86.0	95.3	105.5	112.0	114.4	111.1	101.8
51°	47.0	45.1	52.1	60.4	71.1	79.5	87.9	94.4	96.2	93.4	87.4
51.5°	38.6	37.2	42.3	49.3	61.8	65.5	72.5	78.1	80.0	78.6	73.9
52°	31.6	30.2	33.5	39.1	52.5	55.8	61.8	64.2	65.5	65.1	61.8
52.5°	25.1	23.7	26.0	29.8	43.2	46.5	51.1	54.9	55.8	55.8	53.0
53°	19.1	18.1	19.5	22.3	33.9	36.7	40.9	45.1	46.5	46.0	44.2
53.5°	16.7	15.8	17.2	16.3	24.6	27.0	30.2	35.8	36.7	36.7	35.3
54°	14.4	13.0	14.4	13.5	15.3	17.7	20.0	26.0	27.0	27.4	26.0
54.5°	12.1	10.2	12.1	11.6	11.2	12.6	13.9	16.7	17.7	17.7	17.7
55°	9.3	7.9	9.3	9.3	9.3	9.8	10.7	12.1	12.6	13.0	13.0
55.5°	7.0	7.0	7.0	7.4	7.9	8.4	8.8	9.3	9.8	10.2	9.8
56°	6.5	6.0	6.0	6.5	7.0	7.4	7.4	7.9	8.4	8.4	8.4
56.5°	5.6	5.6	5.6	5.6	6.0	6.5	7.0	7.0	7.4	7.4	7.4
57°	5.1	5.1	5.1	5.1	5.6	5.6	6.0	6.5	6.5	6.5	6.5
57.5°	4.6	4.6	4.6	4.6	5.1	5.1	5.6	5.6	6.0	6.0	6.0
58°	4.2	4.2	4.2	4.2	4.6	4.6	4.6	5.1	5.1	5.1	5.1
58.5°	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.6	4.6	4.6	4.6
59°	3.7	3.7	3.7	3.7	3.7	3.7	4.2	4.2	4.2	4.2	4.2
59.5°	3.3	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7	3.7	3.7
60°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.7	3.7	3.7	3.7
60.5°	2.8	2.8	2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	3.3
61°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.3	3.3	3.3	3.3
61.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
62°	2.3	2.3	2.3	2.3	2.3	2.8	2.8	2.8	2.8	2.8	2.8
62.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.8	2.8
63°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
63.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
64°	1.9	1.9	1.9	1.9	1.9	2.3	2.3	2.3	2.3	2.3	2.3
64.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3
65°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
65.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
66°	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9





TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
68°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
68.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
69°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
69.5°	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
70°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
70.5°	0.9	0.9	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	1.4
71°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.4
71.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
73.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75°	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
75.5°	0.5	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.9
76°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
81.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
82°	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2998.5	2998.5	2998.5	2998.5	2998.5	2998.5
0.5°	2997.6	2998.5	2999.0	2999.4	2999.4	2997.6
1°	2997.6	2998.0	2998.0	2998.5	2998.0	2995.7
1.5°	2996.6	2996.6	2996.6	2996.6	2995.7	2992.9
2°	2994.8	2994.3	2994.3	2993.9	2992.0	2989.2
2.5°	2992.0	2991.1	2990.6	2990.1	2987.8	2984.6
3°	2988.7	2986.9	2986.4	2985.5	2983.2	2979.0
3.5°	2984.1	2981.8	2981.3	2979.9	2976.7	2972.5
4°	2978.5	2975.7	2975.3	2973.4	2969.7	2965.0
4.5°	2972.5	2968.8	2967.8	2966.0	2962.2	2956.7
5°	2966.0	2961.3	2959.5	2957.1	2953.4	2947.8
5.5°	2958.1	2952.5	2950.2	2947.8	2942.7	2937.6
6°	2949.2	2942.7	2940.4	2937.1	2932.5	2926.9
6.5°	2939.9	2932.5	2929.7	2926.0	2920.9	2915.3
7°	2929.7	2921.3	2917.6	2913.4	2907.4	2902.7
7.5°	2918.5	2909.3	2904.6	2899.5	2893.4	2889.3
8°	2906.9	2896.2	2890.7	2884.6	2879.5	2874.8
8.5°	2893.9	2882.3	2875.8	2868.8	2863.2	2859.0
9°	2880.0	2867.4	2859.5	2851.6	2846.0	2842.3
9.5°	2865.1	2851.1	2842.3	2833.0	2826.5	2823.7
10°	2849.3	2833.9	2823.7	2813.9	2807.9	2805.1
10.5°	2832.1	2815.8	2803.7	2793.0	2787.5	2785.6
11°	2814.4	2796.3	2782.8	2771.2	2765.1	2763.3
11.5°	2795.4	2774.9	2760.5	2747.9	2741.4	2740.5
12°	2774.4	2753.0	2736.8	2723.3	2716.8	2716.3
12.5°	2753.0	2728.9	2711.7	2697.7	2691.2	2691.2
13°	2730.7	2703.8	2686.1	2671.7	2664.7	2665.2
13.5°	2706.6	2678.2	2659.1	2643.8	2638.2	2638.2
14°	2681.5	2651.7	2631.7	2615.9	2608.9	2610.8
14.5°	2655.9	2623.8	2603.4	2588.0	2580.6	2582.9
15°	2629.9	2595.9	2574.5	2559.2	2552.2	2555.0
15.5°	2602.9	2568.0	2545.7	2530.4	2523.4	2526.2
16°	2575.9	2539.2	2516.9	2500.2	2494.6	2497.4
16.5°	2548.5	2511.3	2488.1	2471.3	2465.8	2469.5
17°	2520.6	2483.0	2458.3	2442.0	2436.5	2441.6
17.5°	2492.7	2454.1	2429.5	2413.7	2408.1	2413.7
18°	2465.3	2425.3	2401.1	2384.4	2380.2	2385.8
18.5°	2437.9	2397.9	2372.3	2356.0	2352.3	2358.8
19°	2410.4	2370.0	2344.9	2329.1	2326.3	2333.7
19.5°	2384.4	2344.4	2320.2	2304.4	2301.2	2310.0
20°	2359.3	2319.8	2294.7	2280.3	2277.0	2286.3
20.5°	2335.1	2296.1	2271.0	2256.1	2253.8	2263.1
21°	2310.9	2272.4	2246.3	2231.4	2230.5	2239.4

TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2238.0	2198.4	2169.2	2150.6	2145.9	2156.1
23°	2209.1	2169.2	2137.5	2115.7	2111.0	2122.7
23.5°	2179.4	2137.1	2103.6	2078.0	2075.2	2086.4
24°	2146.8	2100.8	2064.6	2036.7	2034.8	2046.0
24.5°	2112.4	2061.3	2026.0	1993.9	1992.0	2003.2
25°	2075.7	2018.5	1983.2	1948.8	1947.9	1958.1
25.5°	2038.1	1972.5	1939.0	1904.6	1903.2	1910.7
26°	1998.1	1924.2	1891.6	1861.4	1855.8	1861.4
26.5°	1956.7	1873.5	1844.2	1817.7	1809.8	1811.2
27°	1914.4	1824.7	1793.5	1774.9	1762.8	1760.5
27.5°	1869.8	1776.3	1740.1	1729.4	1715.0	1712.2
28°	1824.2	1731.2	1688.5	1683.8	1667.5	1663.4
28.5°	1778.7	1687.1	1638.3	1636.4	1620.1	1615.9
29°	1731.7	1644.3	1589.9	1587.1	1570.8	1570.4
29.5°	1684.7	1602.9	1543.0	1536.0	1522.0	1525.3
30°	1639.2	1560.2	1496.5	1484.8	1471.8	1480.7
30.5°	1592.7	1516.0	1451.4	1431.8	1420.7	1436.5
31°	1547.6	1470.9	1406.3	1378.4	1370.5	1391.4
31.5°	1503.9	1423.0	1361.2	1327.7	1319.3	1346.3
32°	1459.3	1374.2	1315.2	1277.0	1271.0	1300.7
32.5°	1415.1	1324.9	1270.1	1227.3	1224.5	1255.2
33°	1370.9	1274.7	1223.6	1179.4	1178.5	1207.8
33.5°	1326.8	1224.5	1176.6	1130.6	1132.9	1159.4
34°	1279.8	1176.2	1129.7	1083.2	1087.4	1111.5
34.5°	1232.4	1130.1	1081.3	1035.8	1041.3	1065.1
35°	1182.7	1084.6	1034.4	988.3	995.3	1018.1
35.5°	1134.8	1041.8	989.3	941.4	949.3	973.9
36°	1081.8	1000.4	944.2	896.8	902.8	930.2
36.5°	1032.0	957.7	901.9	854.0	855.9	887.5
37°	980.9	915.8	858.6	811.7	810.8	845.2
37.5°	932.6	873.5	816.3	770.3	767.1	803.3
38°	883.7	829.4	774.5	729.4	724.8	761.5
38.5°	838.2	785.2	733.1	689.4	684.3	719.6
39°	791.7	742.0	693.6	651.3	646.2	678.7
39.5°	746.6	698.3	652.2	612.3	608.5	636.4
40°	701.5	655.0	612.7	576.0	571.8	596.0
40.5°	659.2	613.2	574.1	539.3	535.5	555.5
41°	616.0	573.7	536.0	504.9	501.6	516.0
41.5°	574.6	534.2	499.3	471.9	467.2	477.0
42°	534.2	497.0	463.5	441.2	434.7	441.2
42.5°	494.6	459.8	429.1	410.0	403.1	405.4
43°	456.5	424.0	396.1	381.2	373.3	371.9
43.5°	422.6	386.8	364.9	352.4	343.6	338.4



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	321.7	284.0	278.0	273.8	264.5	248.7
45.5°	291.9	252.9	251.5	249.6	240.3	221.8
46°	264.1	224.1	226.9	227.3	218.5	196.6
46.5°	237.6	197.1	203.2	205.9	196.6	172.5
47°	212.9	173.4	180.4	185.0	176.2	155.3
47.5°	190.1	156.2	159.5	166.0	159.5	138.5
48°	168.3	139.0	143.2	150.2	143.2	121.8
48.5°	148.8	122.3	126.4	134.4	126.4	105.1
49°	130.6	105.5	110.2	118.5	109.7	88.3
49.5°	113.9	88.8	93.9	102.7	93.0	76.7
50°	98.6	77.2	80.4	86.9	80.0	65.5
50.5°	85.1	66.9	68.8	73.9	66.9	55.8
51°	72.5	57.2	58.6	62.3	56.3	47.0
51.5°	61.8	48.8	48.8	51.6	46.5	38.6
52°	53.5	40.9	40.0	41.8	37.2	31.6
52.5°	45.6	33.5	32.5	33.0	29.3	25.1
53°	37.2	27.0	25.6	25.1	22.3	19.1
53.5°	29.3	20.9	19.5	18.6	16.3	16.7
54°	20.9	15.8	16.7	15.8	13.9	14.4
54.5°	15.8	13.5	14.4	13.0	11.6	12.1
55°	12.1	11.6	12.1	10.2	9.3	9.3
55.5°	9.3	9.3	9.3	7.4	7.4	7.0
56°	8.4	7.4	7.0	7.0	6.5	6.5
56.5°	7.0	6.5	6.0	6.0	6.0	5.6
57°	6.5	5.6	5.6	5.6	5.1	5.1
57.5°	5.6	5.1	5.1	5.1	4.6	4.6
58°	5.1	4.6	4.6	4.6	4.2	4.2
58.5°	4.6	4.2	4.2	4.2	4.2	3.7
59°	4.2	3.7	3.7	3.7	3.7	3.7
59.5°	3.7	3.7	3.7	3.7	3.3	3.3
60°	3.7	3.3	3.3	3.3	3.3	3.3
60.5°	3.3	3.3	3.3	3.3	3.3	2.8
61°	3.3	2.8	2.8	2.8	2.8	2.8
61.5°	2.8	2.8	2.8	2.8	2.8	2.8
62°	2.8	2.8	2.8	2.8	2.3	2.3
62.5°	2.8	2.3	2.3	2.3	2.3	2.3
63°	2.3	2.3	2.3	2.3	2.3	2.3
63.5°	2.3	2.3	2.3	2.3	2.3	2.3
64°	2.3	2.3	2.3	2.3	1.9	1.9
64.5°	2.3	1.9	1.9	1.9	1.9	1.9
65°	1.9	1.9	1.9	1.9	1.9	1.9
65.5°	1.9	1.9	1.9	1.9	1.9	1.9
66°	1.9	1.9	1.9	1.9	1.9	1.4



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.4	1.4	1.4	1.4	1.4	1.4
68°	1.4	1.4	1.4	1.4	1.4	1.4
68.5°	1.4	1.4	1.4	1.4	1.4	1.4
69°	1.4	1.4	1.4	1.4	1.4	1.4
69.5°	1.4	1.4	1.4	1.4	1.4	0.9
70°	1.4	1.4	1.4	1.4	0.9	0.9
70.5°	1.4	1.4	1.4	0.9	0.9	0.9
71°	1.4	0.9	0.9	0.9	0.9	0.9
71.5°	0.9	0.9	0.9	0.9	0.9	0.9
72°	0.9	0.9	0.9	0.9	0.9	0.9
72.5°	0.9	0.9	0.9	0.9	0.9	0.9
73°	0.9	0.9	0.9	0.9	0.9	0.9
73.5°	0.9	0.9	0.9	0.9	0.9	0.9
74°	0.9	0.9	0.9	0.9	0.9	0.5
74.5°	0.9	0.9	0.9	0.9	0.5	0.5
75°	0.9	0.9	0.9	0.9	0.5	0.5
75.5°	0.9	0.9	0.9	0.5	0.5	0.5
76°	0.9	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.0
80.5°	0.5	0.5	0.5	0.5	0.0	0.0
81°	0.5	0.5	0.5	0.5	0.0	0.0
81.5°	0.5	0.5	0.5	0.5	0.0	0.0
82°	0.5	0.5	0.5	0.0	0.0	0.0
82.5°	0.5	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776611

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-3000K

**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

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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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	2214.7	2229.6	2247.3	2271.0	2308.6	2332.8	2350.0	2354.6	2346.7	2330.9	2311.4
22°	2186.8	2201.2	2218.9	2245.9	2285.4	2308.6	2325.4	2331.4	2324.0	2307.7	2288.2



44°	307.8	307.3	327.3	367.3	435.1	466.7	481.2	494.2	498.4	473.3	424.0
44.5°	276.1	276.1	298.0	336.6	402.6	429.6	446.3	457.9	460.7	440.2	391.4



66.5°	1.4	1.4	1.4	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9
67°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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21.5°	2287.2	2249.1	2223.5	2208.7	2205.0	2214.7
22°	2264.0	2224.5	2197.0	2181.2	2177.1	2186.8



44°	389.1	351.5	334.7	325.0	315.7	307.8
44.5°	355.2	317.1	305.9	298.5	289.6	276.1

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66.5°	1.9	1.9	1.9	1.9	1.4	1.4
67°	1.9	1.9	1.4	1.4	1.4	1.4

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89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)