

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: P776307

Luminaire Tested: HCDJBS3040CSD-HCD4TRMW-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776307
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-HCD4TRMW-4000lm-3500K
Description: 4 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

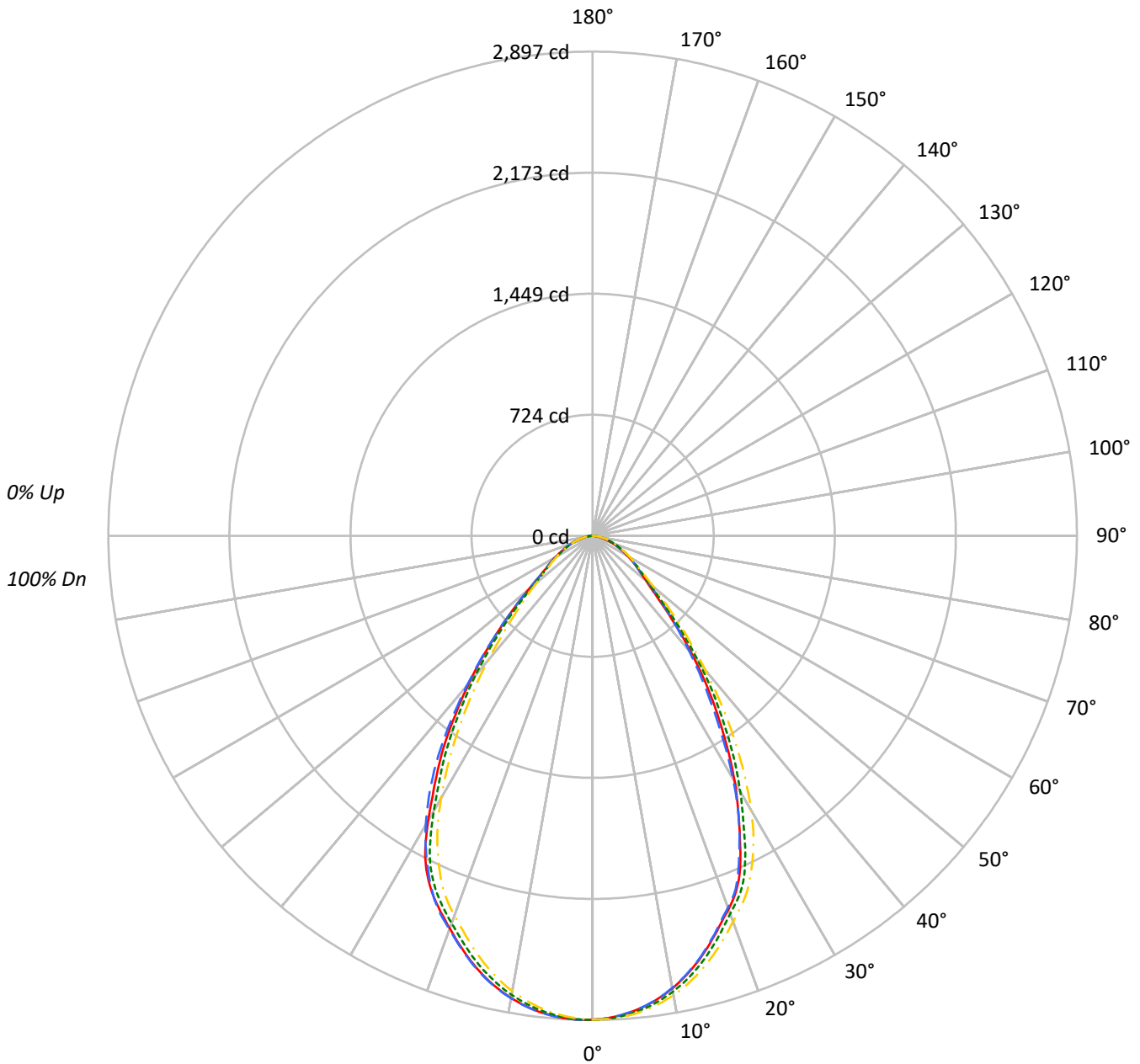
Lumens per Lamp: N/A
Luminaire Lumens: 4038.9 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.02
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776307
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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	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90								
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72								
4	91	82	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	65								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	56	78	68	61	56	66	60	56	65	60	55	64	59	55	53								
7	75	64	57	51	74	63	56	51	62	56	51	60	55	51	59	54	50	49								
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45								
9	67	55	48	44	65	55	48	43	54	48	43	53	47	43	52	47	43	41								
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	364411	364411	364411	364411
5°	360471	361836	363845	362733
10°	351336	353879	358851	356474
15°	336251	340237	348941	345267
20°	318343	322442	334790	330370
25°	290287	299771	320253	314448
30°	247086	256560	285886	275902
35°	199509	210187	239669	229606
40°	151783	162741	188731	179252
45°	107214	116540	138966	130191
50°	81761	86597	97718	91022
55°	69663	72626	75061	71572
60°	60911	64209	65215	62421
65°	52053	56669	55746	54435
70°	44155	50447	47504	48240
75°	35545	45026	39824	42498
80°	24786	39136	30512	36309
85°	8664	31045	13718	26425

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 202.5°
 Vertical Angle: 45°
 Luminance: 140870 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.8	6.7
10°-20°	737.7	18.3
20°-30°	1000.2	24.8
30°-40°	888.3	22.0
40°-50°	543.9	13.5
50°-60°	301.6	7.5
60°-70°	185.1	4.6
70°-80°	91.5	2.3
80°-90°	19.9	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°	2008.7	49.7
0°-40°	2897.0	71.7
0°-60°	3742.5	92.7
0°-90°	4038.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4038.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2896	2896	2896	2896	2896	
5°	2853	2864	2880	2871	2853	269
15°	2581	2611	2678	2650	2581	724
25°	2090	2159	2306	2264	2090	950
35°	1299	1368	1560	1494	1299	809
45°	602	655	781	732	602	480
55°	318	331	342	326	318	287
65°	175	190	187	183	175	175
75°	73	93	82	87	73	78
85°	6	22	10	18	6	11
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°	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6
0.5°	2894.4	2894.8	2894.0	2892.4	2896.3	2895.2	2895.2	2895.9	2896.7	2897.5	2896.7
1°	2892.4	2892.8	2892.0	2890.4	2895.2	2894.8	2894.8	2896.3	2897.1	2897.9	2897.1
1.5°	2889.6	2889.6	2888.8	2887.6	2893.2	2893.6	2893.6	2895.9	2897.1	2897.9	2897.1
2°	2886.4	2886.0	2885.2	2884.4	2890.8	2891.6	2892.4	2894.4	2896.3	2897.5	2896.3
2.5°	2882.4	2882.0	2881.2	2880.5	2887.6	2889.2	2890.4	2893.2	2895.2	2896.3	2895.2
3°	2877.7	2877.7	2876.9	2876.1	2884.0	2886.0	2888.0	2891.2	2893.2	2894.4	2893.2
3.5°	2872.5	2872.5	2871.3	2871.3	2880.1	2882.4	2884.8	2888.4	2890.8	2892.0	2890.8
4°	2866.9	2866.5	2865.4	2865.7	2875.3	2878.5	2880.8	2885.2	2888.0	2889.2	2888.0
4.5°	2861.0	2860.2	2859.0	2859.8	2870.1	2873.3	2876.5	2881.2	2884.4	2886.0	2884.4
5°	2853.4	2853.0	2852.2	2853.0	2864.2	2868.1	2871.7	2876.9	2880.1	2882.0	2880.5
5.5°	2845.9	2845.1	2844.3	2845.5	2857.0	2861.8	2865.7	2872.1	2875.3	2877.3	2876.1
6°	2837.9	2836.7	2835.9	2837.1	2849.9	2855.4	2860.2	2866.5	2870.1	2872.1	2871.3
6.5°	2828.8	2827.6	2827.6	2828.8	2841.9	2847.9	2853.4	2860.2	2864.6	2866.5	2865.7
7°	2819.7	2818.5	2818.1	2819.7	2833.6	2839.9	2846.3	2853.4	2858.6	2860.6	2859.4
7.5°	2809.3	2807.7	2807.3	2809.7	2824.4	2831.6	2838.3	2846.3	2851.4	2853.8	2852.6
8°	2799.0	2797.4	2796.6	2799.0	2814.1	2822.4	2830.0	2838.3	2843.5	2846.3	2845.1
8.5°	2787.5	2785.9	2785.1	2787.5	2804.2	2812.9	2820.8	2830.0	2835.6	2837.9	2837.5
9°	2775.5	2773.6	2772.8	2775.9	2793.0	2802.6	2811.3	2820.5	2827.2	2830.0	2829.2
9.5°	2762.4	2760.1	2759.7	2763.2	2781.1	2791.8	2801.0	2811.3	2818.1	2820.8	2820.1
10°	2749.3	2746.5	2746.1	2749.7	2769.2	2780.3	2790.3	2801.0	2808.1	2811.7	2810.5
10.5°	2735.4	2732.6	2732.2	2735.8	2756.5	2768.4	2778.7	2790.3	2797.4	2801.4	2800.6
11°	2720.7	2717.9	2717.1	2721.5	2742.2	2755.3	2766.4	2779.1	2786.7	2790.6	2789.9
11.5°	2705.2	2701.6	2701.6	2706.4	2728.7	2741.8	2754.1	2766.4	2775.5	2779.1	2778.7
12°	2689.3	2686.1	2685.7	2690.5	2714.0	2727.9	2740.6	2754.1	2763.6	2767.6	2766.4
12.5°	2672.6	2669.1	2669.1	2673.4	2697.7	2712.8	2726.3	2741.0	2750.5	2754.9	2753.7
13°	2655.5	2652.0	2651.2	2656.7	2681.8	2697.7	2712.0	2727.5	2737.4	2742.2	2741.0
13.5°	2636.9	2632.9	2633.7	2638.9	2665.5	2681.4	2696.9	2713.2	2723.5	2728.3	2727.5
14°	2619.4	2615.0	2614.6	2620.2	2648.0	2664.7	2680.6	2697.7	2709.2	2714.0	2712.4
14.5°	2600.3	2595.9	2595.5	2601.9	2629.7	2647.6	2664.7	2682.2	2694.5	2698.9	2697.3
15°	2580.8	2575.7	2575.3	2582.0	2611.4	2629.7	2648.0	2665.9	2678.2	2683.4	2681.8
15.5°	2560.6	2555.8	2555.8	2562.2	2592.0	2611.4	2630.1	2649.6	2661.9	2667.5	2666.3
16°	2539.9	2535.1	2534.8	2541.5	2572.5	2592.8	2612.2	2632.9	2645.6	2651.2	2649.6
16.5°	2519.3	2513.7	2513.7	2521.2	2552.6	2573.3	2594.0	2615.0	2628.5	2634.1	2632.5
17°	2498.6	2492.2	2492.6	2500.2	2532.0	2553.4	2575.3	2597.1	2610.6	2616.6	2615.4
17.5°	2477.5	2470.8	2470.8	2478.7	2510.9	2533.6	2555.8	2578.5	2592.8	2599.1	2597.1
18°	2455.3	2448.9	2448.5	2456.9	2490.2	2512.9	2536.3	2559.4	2574.5	2580.8	2579.3
18.5°	2434.6	2427.5	2426.7	2435.4	2468.8	2491.8	2516.1	2540.3	2555.8	2562.2	2560.6
19°	2414.7	2407.2	2406.0	2414.4	2447.3	2471.6	2495.8	2520.8	2537.1	2543.9	2541.9
19.5°	2395.7	2387.7	2386.5	2394.9	2427.1	2451.3	2475.5	2501.8	2517.7	2525.2	2523.6
20°	2377.0	2368.7	2367.9	2375.8	2407.6	2432.2	2457.3	2482.7	2499.8	2506.9	2506.1
20.5°	2357.1	2348.8	2348.0	2356.3	2388.5	2413.2	2438.2	2464.0	2481.1	2489.5	2488.7
21°	2337.3	2328.9	2328.5	2337.3	2369.4	2395.3	2419.9	2445.3	2463.2	2472.4	2471.6



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CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2265.7	2253.8	2253.0	2266.5	2309.4	2336.5	2362.7	2389.7	2408.0	2417.5	2416.3
23°	2236.3	2224.0	2221.2	2237.5	2285.6	2313.4	2340.4	2370.2	2389.3	2398.1	2394.9
23.5°	2204.9	2192.2	2187.1	2206.9	2258.2	2288.0	2317.4	2350.0	2369.8	2376.6	2372.6
24°	2169.6	2157.3	2150.5	2173.6	2227.6	2261.0	2292.4	2328.1	2349.6	2354.3	2348.4
24.5°	2131.4	2121.5	2113.9	2138.2	2195.0	2232.0	2265.7	2305.5	2328.1	2330.5	2323.4
25°	2090.5	2083.7	2076.6	2101.2	2158.8	2201.0	2237.9	2280.8	2306.3	2305.5	2296.7
25.5°	2050.4	2044.0	2040.4	2062.7	2121.1	2166.4	2208.5	2255.4	2282.8	2278.9	2268.5
26°	2009.8	2003.5	2004.7	2023.0	2081.8	2130.6	2178.7	2228.0	2257.0	2251.4	2240.3
26.5°	1969.3	1960.6	1968.5	1982.4	2039.6	2093.3	2146.9	2198.2	2229.2	2221.6	2211.3
27°	1929.2	1918.8	1931.2	1941.9	1998.3	2054.7	2115.9	2167.6	2199.8	2191.8	2183.1
27.5°	1891.0	1876.7	1893.0	1899.8	1958.6	2015.8	2083.7	2135.8	2167.6	2160.8	2154.5
28°	1853.3	1833.8	1852.1	1858.4	1918.8	1975.7	2050.0	2102.0	2132.6	2130.6	2124.3
28.5°	1815.9	1793.3	1810.0	1817.9	1880.3	1937.9	2014.6	2067.9	2094.1	2098.5	2094.5
29°	1777.0	1752.7	1766.7	1777.0	1842.2	1901.0	1976.5	2031.3	2053.5	2065.5	2063.9
29.5°	1739.2	1712.6	1723.3	1736.1	1804.0	1864.4	1937.5	1993.2	2011.4	2031.3	2031.3
30°	1700.3	1672.1	1679.2	1695.1	1765.5	1827.8	1897.0	1953.4	1967.3	1996.3	1997.9
30.5°	1661.0	1632.7	1634.3	1653.8	1727.7	1791.7	1856.1	1910.1	1922.4	1958.2	1961.8
31°	1620.0	1591.8	1590.6	1612.5	1689.6	1754.3	1813.5	1866.0	1877.9	1920.4	1925.6
31.5°	1579.5	1551.3	1547.3	1572.0	1649.8	1716.6	1770.6	1819.9	1835.0	1881.1	1887.1
32°	1536.6	1511.6	1503.6	1531.4	1610.9	1678.4	1729.3	1773.4	1794.5	1840.6	1849.3
32.5°	1495.3	1470.6	1459.9	1490.5	1571.6	1639.5	1688.0	1727.3	1754.7	1797.7	1811.6
33°	1454.7	1430.1	1417.8	1450.8	1529.8	1598.6	1644.3	1680.8	1715.4	1753.9	1773.8
33.5°	1414.6	1391.5	1375.7	1411.4	1488.5	1557.6	1600.6	1636.3	1676.5	1710.6	1733.7
34°	1375.7	1351.0	1333.9	1371.7	1447.6	1515.5	1556.9	1595.0	1638.7	1668.1	1695.1
34.5°	1336.7	1311.3	1293.0	1331.9	1407.8	1472.2	1513.9	1551.7	1599.4	1625.2	1652.6
35°	1298.6	1270.8	1251.7	1292.6	1368.1	1428.9	1470.6	1508.0	1560.0	1584.3	1610.5
35.5°	1261.2	1233.0	1212.7	1253.3	1330.4	1387.6	1428.1	1466.3	1518.7	1544.1	1566.4
36°	1224.3	1192.9	1175.4	1213.5	1291.0	1345.1	1384.0	1424.1	1475.8	1504.0	1523.1
36.5°	1186.5	1153.9	1138.8	1173.0	1254.1	1304.1	1342.3	1382.0	1433.3	1463.5	1478.2
37°	1148.4	1116.6	1103.1	1134.1	1216.3	1262.8	1298.2	1339.1	1390.0	1422.5	1433.3
37.5°	1110.2	1079.2	1067.3	1095.1	1179.0	1223.1	1255.7	1296.6	1347.0	1383.2	1389.2
38°	1072.1	1042.7	1031.9	1057.0	1142.0	1183.3	1212.3	1254.9	1306.1	1341.5	1344.7
38.5°	1033.9	1005.7	996.6	1021.6	1104.7	1144.4	1171.0	1213.9	1267.6	1300.6	1299.4
39°	997.4	971.5	962.8	986.6	1064.1	1105.5	1129.7	1173.0	1226.6	1258.8	1255.7
39.5°	960.0	937.4	929.4	952.5	1027.2	1066.5	1091.1	1134.5	1188.1	1217.5	1211.9
40°	923.9	903.6	895.6	918.3	990.6	1027.6	1050.2	1095.9	1148.8	1175.8	1169.0
40.5°	888.9	870.6	864.3	885.7	952.5	987.0	1011.3	1059.0	1113.4	1134.9	1126.1
41°	855.1	838.4	834.1	853.5	916.3	948.5	972.7	1022.0	1074.5	1094.7	1085.6
41.5°	820.9	806.6	804.3	822.5	881.3	910.7	936.6	986.6	1034.7	1055.0	1045.8
42°	787.2	776.4	776.8	791.9	848.0	873.8	900.4	952.5	995.8	1015.6	1006.9
42.5°	755.0	747.4	749.4	762.1	813.8	837.2	866.2	918.3	959.6	977.5	969.2
43°	722.8	719.2	722.8	733.5	780.8	802.7	832.9	884.1	921.1	938.6	931.0
43.5°	691.0	691.4	696.2	705.7	747.8	769.3	801.5	851.5	884.1	900.8	894.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	602.4	615.5	623.5	629.0	654.8	677.5	708.9	754.2	780.8	791.5	788.4
45.5°	577.0	592.1	600.8	605.6	626.2	649.3	681.5	723.2	749.0	757.0	754.6
46°	553.1	569.8	579.7	583.3	598.8	621.5	654.1	693.0	717.2	723.2	722.0
46.5°	530.5	548.4	558.3	561.5	573.0	596.4	627.4	664.0	687.0	690.2	690.6
47°	509.8	527.7	538.8	540.4	549.5	571.4	602.4	636.2	657.2	657.6	660.0
47.5°	491.1	507.8	519.3	520.5	527.7	548.0	578.6	608.8	628.2	627.8	631.4
48°	474.4	489.9	500.7	501.9	507.0	526.5	556.3	583.3	600.8	599.2	602.8
48.5°	458.6	472.5	482.8	484.0	488.4	506.2	534.8	559.1	573.8	572.2	575.8
49°	444.2	456.2	466.9	466.9	471.7	488.0	513.8	535.6	547.6	546.0	549.5
49.5°	430.3	440.7	450.6	450.6	456.2	470.1	494.7	513.8	522.9	521.7	525.3
50°	417.6	426.0	435.1	435.1	442.3	453.8	476.0	492.7	499.1	498.7	501.5
50.5°	405.7	412.1	419.6	420.8	428.4	438.7	458.6	472.9	477.6	477.6	479.2
51°	394.2	399.3	406.1	406.9	415.2	424.8	441.9	454.2	457.4	457.8	458.6
51.5°	382.7	386.6	392.6	394.2	403.3	411.7	426.0	436.7	438.7	439.5	438.7
52°	371.9	374.7	379.9	381.5	392.2	398.9	411.3	420.4	421.2	422.0	420.4
52.5°	361.2	363.2	367.6	369.9	380.7	387.0	397.0	404.5	405.3	405.7	403.3
53°	350.9	352.9	356.0	358.4	369.5	375.5	383.8	389.8	391.0	390.6	387.4
53.5°	341.3	342.9	345.3	347.7	358.8	364.4	371.1	376.7	377.1	376.7	373.5
54°	332.6	333.8	335.4	337.8	348.9	354.4	359.2	364.0	364.4	363.6	360.8
54.5°	325.0	325.8	327.0	329.4	338.9	343.7	348.1	352.1	352.9	351.3	348.9
55°	317.5	318.3	319.5	321.5	331.0	335.8	339.3	341.3	342.1	340.9	340.1
55.5°	309.9	310.7	311.9	313.9	323.1	327.4	331.0	333.0	333.8	332.6	331.4
56°	302.4	303.2	304.4	306.0	315.1	319.5	322.7	324.6	325.0	323.8	322.7
56.5°	294.4	295.6	296.8	298.8	307.2	311.1	313.9	316.3	316.3	315.5	314.3
57°	286.9	288.1	289.3	290.9	300.0	303.2	305.6	307.6	307.6	306.8	305.6
57.5°	279.3	280.5	281.3	283.3	292.1	295.2	297.6	299.6	300.4	298.8	297.2
58°	271.8	273.0	273.8	275.8	284.5	287.7	289.7	291.7	292.1	290.9	288.9
58.5°	264.2	265.4	266.6	268.6	277.0	279.7	281.7	284.1	283.7	282.9	280.9
59°	257.1	258.3	259.5	261.5	269.4	272.2	274.2	276.2	275.4	274.6	273.0
59.5°	249.5	251.1	252.3	253.9	262.3	264.6	266.2	268.2	267.4	266.6	265.0
60°	242.0	244.4	245.2	247.2	255.1	257.9	259.1	260.7	259.1	259.1	257.5
60.5°	234.8	237.2	238.4	240.0	248.3	250.3	251.9	253.1	251.1	251.1	249.9
61°	227.7	230.1	231.7	233.2	241.2	243.6	244.8	246.0	243.6	243.6	242.8
61.5°	220.9	223.3	225.3	226.9	234.4	236.8	237.6	238.8	236.0	236.0	235.6
62°	213.8	216.6	218.9	220.1	227.7	230.1	230.9	232.1	228.5	228.9	228.9
62.5°	207.0	210.2	212.2	213.8	220.9	223.3	224.5	224.9	221.3	221.7	222.1
63°	200.3	203.4	206.2	207.8	214.6	217.0	217.8	218.1	214.2	214.6	215.4
63.5°	193.9	197.1	199.9	201.5	208.2	210.6	211.4	211.0	207.0	207.8	209.0
64°	187.6	190.7	194.3	195.5	202.3	204.2	205.0	204.2	200.3	201.1	202.7
64.5°	181.2	184.8	188.3	189.9	196.3	198.3	199.1	197.9	193.5	194.7	196.7
65°	174.8	178.4	182.8	184.0	190.3	192.3	193.1	191.5	187.2	188.3	190.3
65.5°	168.9	172.5	176.8	178.4	184.8	186.4	187.6	185.2	180.4	182.0	184.4
66°	162.9	166.9	171.3	172.9	178.8	180.8	181.6	179.2	174.4	176.0	178.8



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	145.8	149.8	155.0	157.0	162.5	164.1	164.9	161.3	156.6	158.1	161.7
68°	140.7	144.2	149.8	151.8	157.4	158.9	159.7	155.8	151.0	152.6	156.2
68.5°	135.5	139.5	145.0	146.6	152.2	153.8	154.2	150.2	145.0	147.0	151.0
69°	130.3	134.3	139.9	141.9	147.0	148.6	149.0	144.6	139.9	141.9	145.8
69.5°	125.2	129.1	135.1	137.1	142.3	143.8	143.8	139.5	134.3	136.7	140.7
70°	120.0	124.0	130.3	132.7	137.1	138.7	139.1	134.3	129.1	131.5	135.5
70.5°	114.8	118.8	125.6	127.9	132.7	133.9	134.3	129.1	124.0	126.4	130.7
71°	110.1	114.0	120.8	123.2	127.9	129.1	129.1	124.0	119.2	121.2	126.0
71.5°	105.3	109.3	116.0	118.8	123.2	124.8	124.4	118.8	114.0	116.4	121.2
72°	100.1	104.5	111.3	114.0	118.4	120.0	119.6	114.0	109.3	111.7	116.4
72.5°	95.4	99.7	106.9	109.7	114.0	115.6	115.2	109.3	104.5	106.9	112.1
73°	90.6	95.0	102.1	105.3	109.7	110.9	110.5	104.5	99.7	102.1	107.3
73.5°	86.2	90.2	97.8	100.9	105.3	106.5	105.7	99.7	95.0	97.4	102.9
74°	81.9	85.8	93.4	97.0	100.9	102.5	101.7	95.4	90.6	93.0	98.5
74.5°	77.5	81.5	89.0	92.6	96.6	98.1	97.0	91.0	86.2	88.6	94.2
75°	73.1	77.1	84.6	88.6	92.6	93.8	93.0	86.2	81.9	84.2	89.8
75.5°	68.7	72.7	80.7	84.2	88.6	89.8	88.6	82.3	77.5	79.9	85.8
76°	64.8	68.7	76.3	80.7	84.2	85.8	84.2	77.5	73.1	75.5	81.9
76.5°	60.8	64.4	72.3	76.3	80.3	81.9	80.3	73.5	69.1	71.5	77.5
77°	56.8	60.4	68.3	72.7	76.3	77.9	76.3	69.1	64.8	67.2	73.5
77.5°	52.8	56.4	64.4	68.7	72.7	74.3	72.3	65.2	60.8	63.2	69.5
78°	48.9	52.5	60.8	65.2	68.7	70.3	68.3	61.2	56.8	59.6	65.6
78.5°	44.9	48.5	56.8	61.2	65.2	66.4	64.4	57.2	53.2	55.6	62.0
79°	41.3	44.5	53.2	57.6	61.2	62.8	60.8	53.2	49.3	51.7	58.4
79.5°	37.7	40.9	49.3	54.0	57.6	59.2	57.2	49.7	45.7	47.7	54.4
80°	34.2	37.4	45.7	50.5	54.0	55.6	53.2	45.7	42.1	44.1	50.9
80.5°	30.6	33.8	42.5	47.3	50.9	52.1	50.1	42.1	38.5	40.5	47.3
81°	27.0	30.2	38.9	43.7	47.3	48.5	46.5	38.5	35.0	37.4	44.1
81.5°	23.8	26.6	35.8	40.1	43.7	45.3	42.9	35.4	31.8	33.8	40.5
82°	20.3	23.4	32.6	37.0	40.5	41.7	39.7	32.2	28.2	30.2	37.4
82.5°	17.1	20.3	29.4	33.8	37.0	38.5	36.6	29.0	25.0	27.0	34.6
83°	13.9	17.5	26.6	30.6	34.2	35.4	33.8	25.8	21.5	23.4	31.8
83.5°	11.9	14.7	23.4	27.4	31.0	32.2	30.6	22.3	18.3	20.7	28.6
84°	9.9	13.1	21.1	24.6	27.8	29.0	27.4	19.5	15.1	17.9	25.8
84.5°	7.9	11.5	18.3	21.5	24.6	25.8	24.6	17.1	12.3	15.1	23.0
85°	6.0	9.5	15.5	18.3	21.5	22.6	21.5	14.7	9.5	13.1	20.3
85.5°	4.8	7.9	13.1	15.5	18.3	19.9	19.1	12.7	7.9	11.5	17.5
86°	3.6	6.4	10.7	12.7	15.5	17.1	16.3	11.1	6.8	9.9	15.1
86.5°	2.8	4.8	8.3	9.9	12.7	13.9	13.9	9.1	5.6	8.3	12.7
87°	1.6	3.2	5.6	7.2	9.9	11.1	11.1	7.5	4.4	6.8	10.3
87.5°	0.8	2.0	3.2	4.4	7.2	8.7	8.7	6.0	3.6	5.2	7.9
88°	0.4	0.8	1.2	2.0	4.8	6.0	6.4	4.4	2.4	4.0	5.6
88.5°	0.0	0.4	0.4	0.8	2.4	3.2	4.0	2.8	1.6	2.4	3.2



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2895.6	2895.6	2895.6	2895.6	2895.6	2895.6
0.5°	2894.8	2896.7	2895.2	2893.6	2894.0	2894.4
1°	2895.2	2896.3	2894.0	2892.0	2892.0	2892.4
1.5°	2894.4	2895.2	2892.4	2890.0	2889.6	2889.6
2°	2893.6	2893.6	2890.4	2887.2	2886.4	2886.4
2.5°	2892.0	2891.2	2888.0	2884.4	2882.8	2882.4
3°	2890.0	2888.4	2884.4	2880.8	2878.5	2877.7
3.5°	2887.6	2885.2	2880.8	2876.5	2873.7	2872.5
4°	2884.4	2881.6	2876.1	2872.1	2868.5	2866.9
4.5°	2880.8	2876.5	2871.3	2866.1	2862.6	2861.0
5°	2876.9	2871.3	2865.4	2860.2	2855.8	2853.4
5.5°	2871.7	2865.7	2859.4	2853.4	2848.7	2845.9
6°	2866.1	2859.8	2852.2	2846.3	2841.1	2837.9
6.5°	2860.6	2853.4	2845.1	2838.7	2832.4	2828.8
7°	2854.2	2845.9	2837.1	2830.0	2823.2	2819.7
7.5°	2847.5	2837.5	2828.8	2820.8	2813.7	2809.3
8°	2839.5	2829.6	2819.7	2810.9	2803.4	2799.0
8.5°	2831.6	2820.5	2810.1	2801.0	2792.6	2787.5
9°	2822.8	2810.5	2799.8	2789.5	2780.3	2775.5
9.5°	2813.7	2800.6	2789.1	2778.3	2768.4	2762.4
10°	2803.8	2789.5	2777.5	2766.4	2755.7	2749.3
10.5°	2793.4	2778.3	2765.2	2753.7	2742.6	2735.4
11°	2781.9	2766.4	2752.5	2740.2	2728.3	2720.7
11.5°	2770.4	2754.1	2739.4	2726.3	2712.8	2705.2
12°	2758.1	2740.6	2725.5	2710.8	2697.7	2689.3
12.5°	2745.4	2726.7	2710.8	2695.3	2681.4	2672.6
13°	2731.8	2712.4	2696.1	2679.8	2665.1	2655.5
13.5°	2717.9	2698.1	2680.2	2663.5	2647.2	2636.9
14°	2703.2	2682.6	2664.3	2646.4	2628.9	2619.4
14.5°	2688.1	2666.7	2647.6	2628.9	2610.6	2600.3
15°	2672.2	2650.0	2630.1	2610.2	2591.6	2580.8
15.5°	2655.9	2632.5	2612.2	2592.0	2572.5	2560.6
16°	2639.3	2615.4	2594.0	2572.9	2553.0	2539.9
16.5°	2622.2	2597.5	2575.3	2553.8	2532.4	2519.3
17°	2604.3	2578.5	2556.2	2534.4	2512.1	2498.6
17.5°	2586.4	2560.6	2536.7	2513.7	2491.0	2477.5
18°	2568.1	2541.5	2517.7	2493.8	2470.4	2455.3
18.5°	2549.5	2522.0	2498.2	2474.0	2450.1	2434.6
19°	2530.0	2504.2	2479.1	2454.9	2431.0	2414.7
19.5°	2512.1	2485.1	2460.4	2436.6	2412.4	2395.7
20°	2494.6	2466.8	2443.0	2417.9	2393.7	2377.0
20.5°	2477.1	2449.3	2423.9	2399.3	2374.2	2357.1
21°	2459.3	2430.6	2405.6	2380.2	2354.7	2337.3

TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2404.4	2374.2	2346.4	2314.2	2284.8	2265.7
23°	2384.2	2354.7	2325.7	2290.0	2258.2	2236.3
23.5°	2362.7	2333.7	2303.1	2263.4	2228.4	2204.9
24°	2339.2	2313.0	2278.9	2235.5	2196.6	2169.6
24.5°	2315.0	2288.8	2253.4	2205.7	2162.8	2131.4
25°	2289.2	2264.5	2226.0	2175.5	2127.9	2090.5
25.5°	2262.2	2237.9	2197.4	2144.5	2090.9	2050.4
26°	2233.9	2210.5	2167.2	2113.6	2052.8	2009.8
26.5°	2203.4	2178.3	2134.6	2080.6	2013.4	1969.3
27°	2173.6	2145.7	2100.8	2046.4	1974.9	1929.2
27.5°	2143.4	2108.8	2065.9	2011.4	1935.9	1891.0
28°	2112.0	2069.8	2029.3	1974.5	1898.2	1853.3
28.5°	2079.8	2028.5	1990.8	1935.9	1860.8	1815.9
29°	2046.4	1986.8	1950.6	1895.8	1823.9	1777.0
29.5°	2013.0	1942.7	1908.9	1854.9	1787.3	1739.2
30°	1976.9	1898.6	1865.6	1813.1	1750.8	1700.3
30.5°	1939.5	1855.7	1820.3	1771.4	1713.0	1661.0
31°	1900.6	1813.5	1773.0	1729.3	1673.7	1620.0
31.5°	1860.4	1773.0	1727.7	1685.6	1634.7	1579.5
32°	1819.5	1733.3	1682.8	1642.7	1595.4	1536.6
32.5°	1777.0	1694.3	1638.7	1599.4	1554.9	1495.3
33°	1733.7	1655.8	1596.6	1556.5	1511.2	1454.7
33.5°	1690.0	1617.2	1553.7	1512.7	1469.0	1414.6
34°	1647.4	1578.3	1512.7	1469.8	1424.9	1375.7
34.5°	1605.3	1536.2	1471.0	1425.7	1381.6	1336.7
35°	1564.0	1494.5	1429.3	1382.4	1337.5	1298.6
35.5°	1523.5	1452.3	1387.2	1339.9	1296.6	1261.2
36°	1482.9	1409.8	1344.7	1298.2	1254.9	1224.3
36.5°	1442.4	1368.1	1302.5	1256.4	1214.7	1186.5
37°	1402.3	1325.2	1260.4	1213.5	1175.0	1148.4
37.5°	1360.6	1284.3	1219.1	1172.2	1137.2	1110.2
38°	1319.2	1244.5	1178.2	1130.9	1097.5	1072.1
38.5°	1278.3	1206.0	1138.0	1090.7	1059.0	1033.9
39°	1237.8	1167.8	1100.3	1050.2	1019.6	997.4
39.5°	1195.7	1129.3	1062.5	1010.9	979.9	960.0
40°	1154.7	1091.1	1026.0	971.9	940.9	923.9
40.5°	1113.4	1053.0	990.2	934.2	902.8	888.9
41°	1075.3	1014.1	954.5	897.2	865.0	855.1
41.5°	1034.7	976.7	919.9	862.7	828.9	820.9
42°	996.2	938.6	884.9	828.1	794.7	787.2
42.5°	957.2	901.6	853.1	796.3	762.1	755.0
43°	920.7	865.0	819.0	764.5	730.3	722.8
43.5°	882.1	830.5	786.4	733.5	699.7	691.0



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	776.0	731.5	692.2	648.5	615.9	602.4
45.5°	741.1	700.5	663.2	622.7	590.9	577.0
46°	708.5	670.7	635.4	598.4	566.6	553.1
46.5°	675.9	640.9	608.0	574.6	544.0	530.5
47°	644.9	612.7	581.7	551.1	522.5	509.8
47.5°	615.5	584.9	557.5	529.7	502.7	491.1
48°	586.9	558.7	533.3	509.8	484.4	474.4
48.5°	561.1	532.9	511.0	490.7	466.9	458.6
49°	534.8	509.0	490.3	472.5	451.0	444.2
49.5°	511.4	486.4	470.5	455.0	436.3	430.3
50°	489.1	464.9	451.4	438.3	422.4	417.6
50.5°	468.1	444.6	433.5	422.8	409.3	405.7
51°	448.2	426.8	417.2	408.1	396.6	394.2
51.5°	430.3	410.1	401.7	394.6	384.6	382.7
52°	413.3	394.6	387.8	381.1	373.5	371.9
52.5°	397.4	380.7	374.3	368.7	362.4	361.2
53°	382.7	367.6	361.6	356.8	352.1	350.9
53.5°	368.7	355.6	349.7	346.1	342.1	341.3
54°	356.0	344.5	339.3	336.2	333.4	332.6
54.5°	344.9	335.0	330.6	327.8	325.4	325.0
55°	336.6	326.2	322.7	320.3	317.9	317.5
55.5°	327.8	318.7	314.7	312.3	309.9	309.9
56°	319.5	310.7	306.8	304.8	302.4	302.4
56.5°	311.1	302.8	299.2	296.8	294.4	294.4
57°	302.4	294.4	291.3	288.9	286.9	286.9
57.5°	294.4	286.1	282.9	280.9	279.3	279.3
58°	286.5	278.5	275.4	273.4	271.8	271.8
58.5°	278.5	270.6	267.4	265.8	264.2	264.2
59°	270.2	263.1	259.9	258.3	257.1	257.1
59.5°	262.7	255.1	252.3	251.1	249.9	249.5
60°	255.1	248.0	245.2	244.0	242.8	242.0
60.5°	247.6	240.4	238.0	237.2	236.0	234.8
61°	240.4	233.6	231.3	230.1	229.3	227.7
61.5°	233.2	226.9	224.5	223.3	222.1	220.9
62°	226.5	220.1	218.1	217.0	215.8	213.8
62.5°	219.7	213.4	211.0	210.6	209.0	207.0
63°	213.0	207.0	205.0	204.2	202.7	200.3
63.5°	207.0	200.7	198.7	198.3	196.3	193.9
64°	200.7	194.7	192.7	192.3	189.9	187.6
64.5°	194.3	188.7	186.8	186.4	184.0	181.2
65°	188.3	182.8	181.2	180.8	178.0	174.8
65.5°	182.4	177.2	175.6	174.8	172.1	168.9
66°	176.8	171.7	170.1	169.7	166.1	162.9



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	160.5	155.4	154.2	153.4	149.0	145.8
68°	155.0	150.2	149.0	148.6	143.0	140.7
68.5°	150.2	145.4	143.4	143.0	138.3	135.5
69°	145.0	140.7	139.1	138.3	133.5	130.3
69.5°	139.9	135.9	134.3	133.5	128.3	125.2
70°	135.1	131.1	129.9	129.1	123.6	120.0
70.5°	130.3	126.8	125.2	124.4	118.4	114.8
71°	126.0	122.0	120.4	119.6	113.6	110.1
71.5°	121.2	117.2	116.0	114.8	108.9	105.3
72°	116.8	112.8	111.7	110.5	104.1	100.1
72.5°	112.1	108.5	107.3	105.7	99.3	95.4
73°	107.7	104.1	102.9	101.3	95.0	90.6
73.5°	103.3	99.7	98.5	97.0	90.2	86.2
74°	99.3	95.8	94.6	92.6	85.8	81.9
74.5°	95.0	91.4	90.2	88.6	81.5	77.5
75°	91.0	87.4	86.2	84.2	77.1	73.1
75.5°	87.0	83.4	82.3	80.3	73.1	68.7
76°	83.0	79.5	78.3	75.9	68.7	64.8
76.5°	79.1	75.5	74.3	71.9	64.4	60.8
77°	75.1	71.9	70.7	67.9	60.4	56.8
77.5°	71.5	67.9	66.8	64.4	56.4	52.8
78°	67.6	64.4	63.2	60.4	52.5	48.9
78.5°	64.0	60.8	59.6	56.8	48.9	44.9
79°	60.4	57.2	56.0	52.8	44.9	41.3
79.5°	56.8	53.6	52.5	49.3	41.3	37.7
80°	53.2	50.1	48.9	46.1	37.7	34.2
80.5°	49.7	46.9	45.7	42.5	34.2	30.6
81°	46.5	43.3	42.1	38.9	30.6	27.0
81.5°	42.9	40.1	38.9	35.8	27.4	23.8
82°	39.7	37.0	35.8	32.6	24.2	20.3
82.5°	36.6	33.8	32.6	29.8	21.1	17.1
83°	33.8	30.6	29.4	26.6	18.3	13.9
83.5°	30.6	27.4	26.2	23.8	15.9	11.9
84°	27.4	24.2	23.0	21.1	13.9	9.9
84.5°	24.2	21.5	20.3	18.3	12.3	7.9
85°	21.5	18.3	17.5	15.5	10.3	6.0
85.5°	18.3	15.5	14.3	13.1	8.3	4.8
86°	15.5	13.1	11.9	10.3	6.8	3.6
86.5°	12.7	10.3	9.1	7.9	5.2	2.8
87°	10.3	7.5	6.4	5.2	3.6	1.6
87.5°	7.5	4.8	3.6	2.8	2.0	0.8
88°	4.8	2.4	1.6	1.2	0.8	0.4
88.5°	2.4	0.8	0.4	0.4	0.4	0.0



TEST NUMBER: P776307

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-3500K

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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Scaled Data Report





21.5°	2316.6	2305.9	2306.7	2316.2	2350.8	2376.2	2401.6	2427.1	2444.5	2454.1	2453.7
22°	2292.8	2280.8	2281.6	2292.4	2331.3	2357.5	2383.8	2408.4	2426.7	2436.6	2435.8



44°	660.0	665.2	671.5	679.5	715.6	737.9	769.3	818.2	848.4	863.9	857.9
44.5°	631.0	639.7	646.1	654.1	685.0	707.3	737.9	786.4	815.0	826.9	822.5



66.5°	157.4	160.9	166.1	167.3	173.2	175.2	175.6	172.9	168.1	169.7	172.9
67°	151.4	155.4	160.5	162.1	168.1	169.7	170.5	167.3	162.5	164.1	167.3



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

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21.5°	2441.0	2411.6	2386.5	2359.9	2333.3	2316.6
22°	2423.5	2393.7	2367.1	2337.7	2310.2	2292.8



44°	846.4	795.9	754.6	704.1	670.3	660.0
44.5°	810.2	763.3	723.6	675.5	642.5	631.0



66.5°	171.3	166.1	164.5	164.1	160.1	157.4
67°	165.7	160.5	159.3	158.9	154.6	151.4

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Scaled Data Report



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

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)