

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: P776483

Luminaire Tested: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776483
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B064-HCD82TRMW)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD82TRMW-4000lm-4000K
Description: 8 INCH ROUND NARROW MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

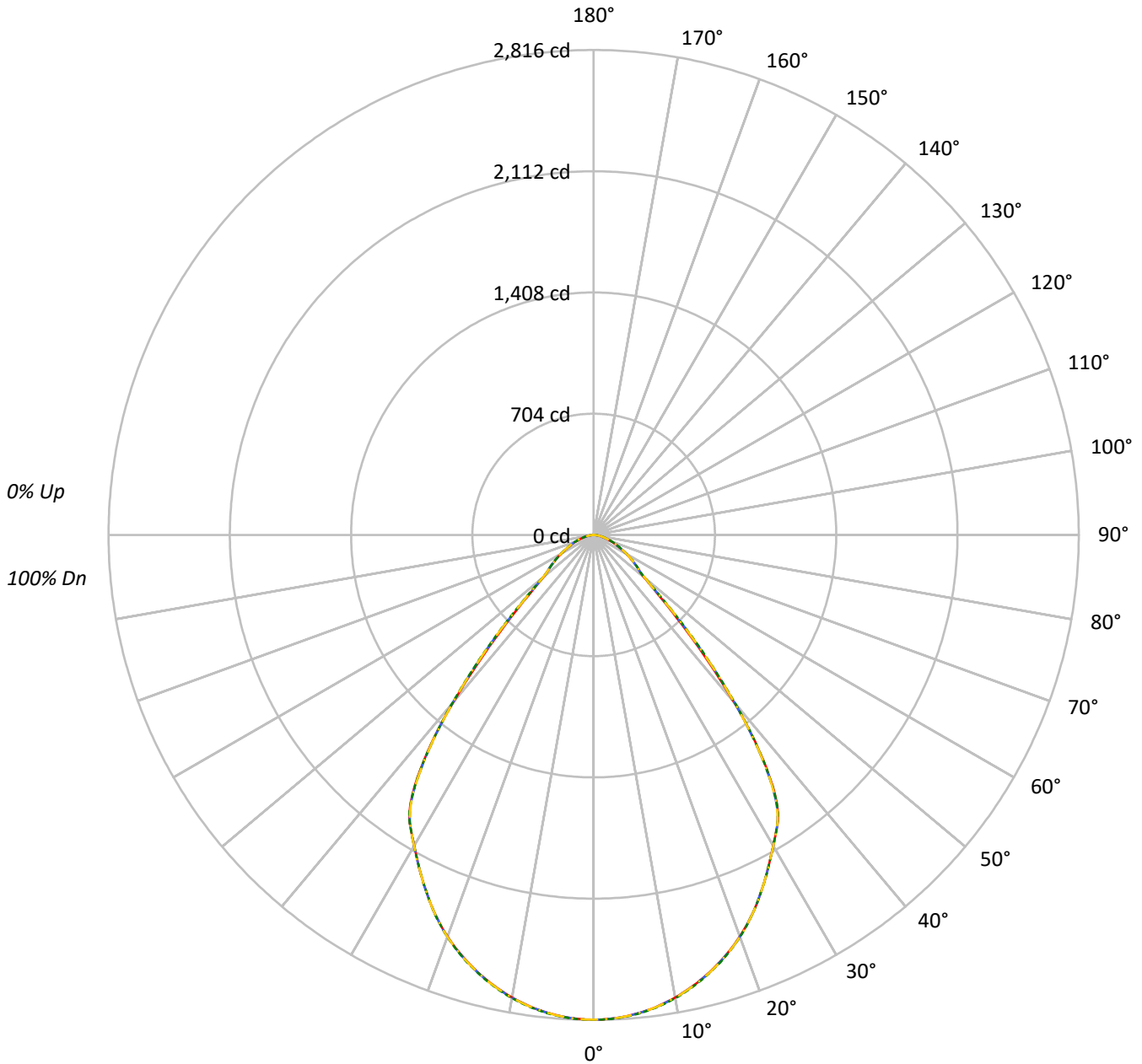
Lumens per Lamp: N/A
Luminaire Lumens: 4244.5 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.12
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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					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	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90								
2	105	99	93	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81								
3	98	90	84	79	96	88	83	78	86	81	77	83	79	75	81	77	74	72								
4	91	82	75	70	89	81	74	70	79	73	69	76	72	68	74	70	67	65								
5	86	75	68	63	84	74	68	63	72	67	62	71	65	61	69	64	61	59								
6	80	69	62	57	79	69	62	57	67	61	56	65	60	56	64	59	55	54								
7	75	64	57	52	74	63	57	52	62	56	51	61	55	51	59	55	51	49								
8	71	60	52	47	69	59	52	47	58	52	47	57	51	47	55	50	47	45								
9	67	55	48	44	66	55	48	44	54	48	43	53	47	43	52	47	43	42								
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°	85934	85934	85934	85934
5°	85581	85658	85581	85658
10°	84547	84674	84547	84674
15°	82887	83013	82887	83013
20°	80617	80695	80617	80695
25°	77270	77283	77270	77283
30°	73486	73486	73486	73486
35°	68269	68134	68269	68134
40°	50456	51054	50456	51054
45°	29662	31109	29662	31109
50°	18153	18386	18153	18386
55°	15559	15580	15559	15580
60°	13268	13391	13268	13391
65°	11270	11537	11270	11537
70°	9578	10007	9578	10007
75°	7986	8611	7986	8611
80°	6382	7226	6382	7226
85°	3958	5500	3958	5500

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 31355 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.5	6.2
10°-20°	738.4	17.4
20°-30°	1054.4	24.8
30°-40°	1101.0	25.9
40°-50°	571.9	13.5
50°-60°	262.2	6.2
60°-70°	159.0	3.7
70°-80°	76.2	1.8
80°-90°	17.1	0.4
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°	2057.3	48.5
0°-40°	3158.3	74.4
0°-60°	3992.3	94.1
0°-90°	4244.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4244.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2815	2815	2815	2815	2815	
5°	2792	2795	2792	2795	2792	264
15°	2622	2626	2622	2626	2622	738
25°	2294	2294	2294	2294	2294	1054
35°	1832	1828	1832	1828	1832	1103
45°	687	720	687	720	687	559
55°	292	293	292	293	292	261
65°	156	160	156	160	156	156
75°	68	73	68	73	68	73
85°	11	16	11	16	11	15
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°	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7
0.5°	2814.3	2813.5	2814.3	2814.3	2815.9	2814.3	2814.3	2813.5	2814.3	2813.5	2814.3
1°	2813.9	2813.1	2813.9	2813.9	2815.1	2813.9	2813.9	2813.1	2813.9	2813.1	2813.9
1.5°	2812.7	2811.9	2812.7	2812.7	2814.3	2812.7	2812.7	2811.9	2812.7	2811.9	2812.7
2°	2811.1	2810.3	2811.1	2811.1	2812.7	2811.1	2811.1	2810.3	2811.1	2810.3	2811.1
2.5°	2809.1	2808.3	2809.1	2809.5	2810.7	2809.5	2809.1	2808.3	2809.1	2808.3	2809.1
3°	2806.6	2805.8	2806.6	2807.1	2808.7	2807.1	2806.6	2805.8	2806.6	2805.8	2806.6
3.5°	2803.8	2803.0	2803.8	2804.2	2805.8	2804.2	2803.8	2803.0	2803.8	2803.0	2803.8
4°	2800.2	2799.8	2800.6	2801.0	2802.6	2801.0	2800.6	2799.8	2800.2	2799.8	2800.6
4.5°	2796.6	2796.2	2797.0	2797.4	2799.0	2797.4	2797.0	2796.2	2796.6	2796.2	2797.0
5°	2792.5	2791.7	2792.5	2793.3	2795.0	2793.3	2792.5	2791.7	2792.5	2791.7	2792.5
5.5°	2787.7	2787.3	2788.1	2788.9	2790.5	2788.9	2788.1	2787.3	2787.7	2787.3	2788.1
6°	2782.9	2782.1	2783.3	2784.1	2785.3	2784.1	2783.3	2782.1	2782.9	2782.1	2783.3
6.5°	2777.2	2776.8	2778.0	2778.8	2780.0	2778.8	2778.0	2776.8	2777.2	2776.8	2778.0
7°	2771.6	2770.8	2772.0	2772.8	2774.4	2772.8	2772.0	2770.8	2771.6	2770.8	2772.0
7.5°	2765.1	2764.3	2765.9	2766.7	2768.3	2766.7	2765.9	2764.3	2765.1	2764.3	2765.9
8°	2758.3	2757.9	2759.1	2759.9	2761.9	2759.9	2759.1	2757.9	2758.3	2757.9	2759.1
8.5°	2751.0	2750.6	2752.2	2753.0	2754.6	2753.0	2752.2	2750.6	2751.0	2750.6	2752.2
9°	2743.7	2743.3	2744.6	2745.8	2747.4	2745.8	2744.6	2743.3	2743.7	2743.3	2744.6
9.5°	2735.3	2735.3	2736.5	2737.7	2739.3	2737.7	2736.5	2735.3	2735.3	2735.3	2736.5
10°	2727.2	2726.8	2728.4	2729.6	2731.3	2729.6	2728.4	2726.8	2727.2	2726.8	2728.4
10.5°	2718.3	2717.9	2719.6	2720.8	2722.8	2720.8	2719.6	2717.9	2718.3	2717.9	2719.6
11°	2709.1	2709.1	2710.3	2711.9	2713.5	2711.9	2710.3	2709.1	2709.1	2709.1	2710.3
11.5°	2699.8	2699.4	2701.0	2702.2	2703.8	2702.2	2701.0	2699.4	2699.8	2699.4	2701.0
12°	2689.7	2689.7	2690.9	2692.5	2694.2	2692.5	2690.9	2689.7	2689.7	2689.7	2690.9
12.5°	2679.2	2679.2	2680.9	2682.5	2683.7	2682.5	2680.9	2679.2	2679.2	2679.2	2680.9
13°	2668.8	2668.8	2670.4	2671.6	2673.2	2671.6	2670.4	2668.8	2668.8	2668.8	2670.4
13.5°	2657.5	2657.5	2659.1	2661.1	2661.9	2661.1	2659.1	2657.5	2657.5	2657.5	2659.1
14°	2646.6	2646.2	2647.8	2649.4	2650.6	2649.4	2647.8	2646.2	2646.6	2646.2	2647.8
14.5°	2634.5	2634.5	2636.1	2637.7	2638.9	2637.7	2636.1	2634.5	2634.5	2634.5	2636.1
15°	2622.4	2622.8	2624.4	2625.6	2626.4	2625.6	2624.4	2622.8	2622.4	2622.8	2624.4
15.5°	2609.9	2610.3	2611.9	2613.1	2613.9	2613.1	2611.9	2610.3	2609.9	2610.3	2611.9
16°	2597.4	2597.4	2599.0	2600.2	2601.0	2600.2	2599.0	2597.4	2597.4	2597.4	2599.0
16.5°	2584.5	2584.5	2586.1	2586.9	2588.1	2586.9	2586.1	2584.5	2584.5	2584.5	2586.1
17°	2570.8	2570.8	2572.4	2573.6	2574.4	2573.6	2572.4	2570.8	2570.8	2570.8	2572.4
17.5°	2556.7	2557.1	2558.7	2559.5	2560.3	2559.5	2558.7	2557.1	2556.7	2557.1	2558.7
18°	2542.6	2542.6	2544.2	2545.0	2545.8	2545.0	2544.2	2542.6	2542.6	2542.6	2544.2
18.5°	2528.0	2528.0	2529.7	2530.1	2530.9	2530.1	2529.7	2528.0	2528.0	2528.0	2529.7
19°	2512.7	2512.7	2514.3	2515.1	2515.5	2515.1	2514.3	2512.7	2512.7	2512.7	2514.3
19.5°	2497.0	2497.4	2498.6	2499.4	2499.8	2499.4	2498.6	2497.4	2497.0	2497.4	2498.6
20°	2481.3	2481.3	2482.5	2482.9	2483.7	2482.9	2482.5	2481.3	2481.3	2481.3	2482.5
20.5°	2464.7	2464.7	2465.9	2465.9	2466.8	2465.9	2465.9	2464.7	2464.7	2464.7	2465.9
21°	2447.8	2447.8	2449.0	2449.0	2449.4	2449.0	2449.0	2447.8	2447.8	2447.8	2449.0



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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°	2393.4	2393.4	2394.2	2393.8	2394.6	2393.8	2394.2	2393.4	2393.4	2393.4	2394.2
23°	2374.4	2374.4	2374.8	2374.8	2375.2	2374.8	2374.8	2374.4	2374.4	2374.4	2374.8
23.5°	2355.1	2355.1	2355.5	2355.1	2355.5	2355.1	2355.5	2355.1	2355.1	2355.1	2355.5
24°	2335.3	2334.9	2335.3	2334.9	2335.3	2334.9	2335.3	2334.9	2335.3	2334.9	2335.3
24.5°	2314.3	2314.3	2315.2	2314.7	2314.7	2314.7	2315.2	2314.3	2314.3	2314.3	2315.2
25°	2293.8	2293.8	2294.2	2294.2	2294.2	2294.2	2294.2	2293.8	2293.8	2293.8	2294.2
25.5°	2273.2	2272.8	2273.6	2273.2	2273.2	2273.2	2273.6	2272.8	2273.2	2272.8	2273.6
26°	2252.3	2251.9	2252.3	2252.7	2252.3	2252.7	2252.3	2251.9	2252.3	2251.9	2252.3
26.5°	2230.9	2231.3	2231.3	2231.3	2231.3	2231.3	2231.3	2230.9	2231.3	2231.3	2231.3
27°	2209.9	2209.9	2210.3	2210.3	2209.9	2210.3	2210.3	2209.9	2209.9	2209.9	2210.3
27.5°	2188.5	2188.5	2189.4	2189.4	2188.5	2189.4	2189.4	2188.5	2188.5	2188.5	2189.4
28°	2167.6	2167.6	2168.4	2168.0	2168.0	2168.0	2168.4	2167.6	2167.6	2167.6	2168.4
28.5°	2146.6	2146.6	2147.4	2147.0	2146.6	2147.0	2147.4	2146.6	2146.6	2146.6	2147.4
29°	2125.2	2126.1	2126.5	2126.1	2126.1	2126.1	2126.5	2126.1	2125.2	2126.1	2126.5
29.5°	2104.7	2105.1	2105.9	2105.9	2105.1	2105.9	2105.9	2105.1	2104.7	2105.1	2105.9
30°	2084.5	2084.9	2085.3	2085.3	2084.5	2085.3	2085.3	2084.9	2084.5	2084.9	2085.3
30.5°	2064.4	2065.2	2065.6	2065.2	2064.0	2065.2	2065.6	2065.2	2064.4	2065.2	2065.6
31°	2044.6	2045.0	2045.8	2045.4	2045.0	2045.4	2045.8	2045.0	2044.6	2045.0	2045.8
31.5°	2025.7	2025.7	2026.1	2025.7	2024.9	2025.7	2026.1	2025.7	2025.7	2025.7	2026.1
32°	2005.9	2005.9	2005.9	2005.5	2005.5	2005.5	2005.9	2005.9	2005.9	2005.9	2005.9
32.5°	1986.1	1984.5	1984.1	1983.7	1985.7	1983.7	1984.1	1984.5	1986.1	1984.5	1984.1
33°	1964.4	1960.3	1959.5	1958.3	1965.2	1958.3	1959.5	1960.3	1964.4	1960.3	1959.5
33.5°	1937.8	1931.7	1932.1	1929.7	1938.6	1929.7	1932.1	1931.7	1937.8	1931.7	1932.1
34°	1905.9	1899.1	1901.5	1896.6	1907.1	1896.6	1901.5	1899.1	1905.9	1899.1	1901.5
34.5°	1871.6	1862.0	1866.0	1861.2	1870.8	1861.2	1866.0	1862.0	1871.6	1862.0	1866.0
35°	1831.7	1822.8	1824.9	1821.6	1828.1	1821.6	1824.9	1822.8	1831.7	1822.8	1824.9
35.5°	1787.0	1782.1	1779.7	1776.9	1781.3	1776.9	1779.7	1782.1	1787.0	1782.1	1779.7
36°	1737.8	1738.6	1731.3	1728.1	1735.0	1728.1	1731.3	1738.6	1737.8	1738.6	1731.3
36.5°	1686.2	1689.8	1680.1	1676.5	1683.7	1676.5	1680.1	1689.8	1686.2	1689.8	1680.1
37°	1632.9	1636.2	1627.3	1622.5	1631.3	1622.5	1627.3	1636.2	1632.9	1636.2	1627.3
37.5°	1577.7	1577.7	1571.7	1567.2	1575.3	1567.2	1571.7	1577.7	1577.7	1577.7	1571.7
38°	1520.0	1516.0	1514.8	1511.2	1518.8	1511.2	1514.8	1516.0	1520.0	1516.0	1514.8
38.5°	1460.0	1452.7	1455.9	1453.1	1460.8	1453.1	1455.9	1452.7	1460.0	1452.7	1455.9
39°	1397.1	1390.2	1395.1	1394.7	1402.7	1394.7	1395.1	1390.2	1397.1	1390.2	1395.1
39.5°	1333.0	1328.1	1333.8	1335.4	1342.6	1335.4	1333.8	1328.1	1333.0	1328.1	1333.8
40°	1266.0	1267.2	1272.9	1277.3	1281.0	1277.3	1272.9	1267.2	1266.0	1267.2	1272.9
40.5°	1199.1	1205.2	1211.2	1218.9	1219.3	1218.9	1211.2	1205.2	1199.1	1205.2	1211.2
41°	1134.2	1144.3	1151.9	1160.8	1158.0	1160.8	1151.9	1144.3	1134.2	1144.3	1151.9
41.5°	1070.1	1081.8	1092.7	1103.1	1097.1	1103.1	1092.7	1081.8	1070.1	1081.8	1092.7
42°	1008.8	1020.9	1033.8	1045.1	1038.6	1045.1	1033.8	1020.9	1008.8	1020.9	1033.8
42.5°	949.5	961.2	975.3	988.6	981.0	988.6	975.3	961.2	949.5	961.2	975.3
43°	891.9	903.6	919.3	932.6	926.1	932.6	919.3	903.6	891.9	903.6	919.3
43.5°	837.0	847.5	864.5	879.0	872.1	879.0	864.5	847.5	837.0	847.5	864.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	687.0	694.3	712.9	726.2	720.5	726.2	712.9	694.3	687.0	694.3	712.9
45.5°	643.1	649.5	667.3	679.8	675.4	679.8	667.3	649.5	643.1	649.5	667.3
46°	601.6	608.8	624.1	635.8	632.2	635.8	624.1	608.8	601.6	608.8	624.1
46.5°	563.7	571.7	582.6	594.7	591.9	594.7	582.6	571.7	563.7	571.7	582.6
47°	528.2	537.5	545.1	556.8	554.0	556.8	545.1	537.5	528.2	537.5	545.1
47.5°	496.7	506.4	510.4	521.7	518.5	521.7	510.4	506.4	496.7	506.4	510.4
48°	468.5	477.0	479.4	490.7	486.3	490.7	479.4	477.0	468.5	477.0	479.4
48.5°	443.1	450.0	452.0	461.7	456.4	461.7	452.0	450.0	443.1	450.0	452.0
49°	420.1	425.4	427.4	435.5	430.6	435.5	427.4	425.4	420.1	425.4	427.4
49.5°	400.4	404.0	406.4	412.5	406.8	412.5	406.4	404.0	400.4	404.0	406.4
50°	382.2	385.5	388.3	392.3	387.1	392.3	388.3	385.5	382.2	385.5	388.3
50.5°	367.3	369.7	372.2	375.4	370.1	375.4	372.2	369.7	367.3	369.7	372.2
51°	354.8	357.2	358.4	360.9	356.4	360.9	358.4	357.2	354.8	357.2	358.4
51.5°	344.3	346.3	347.6	348.4	345.5	348.4	347.6	346.3	344.3	346.3	347.6
52°	336.3	337.1	337.9	338.3	336.7	338.3	337.9	337.1	336.3	337.1	337.9
52.5°	328.6	329.0	329.4	329.4	329.4	329.4	329.4	329.0	328.6	329.0	329.4
53°	321.3	321.8	321.8	321.8	322.2	321.8	321.8	321.8	321.3	321.8	321.8
53.5°	314.5	314.5	314.5	314.1	314.9	314.1	314.5	314.5	314.5	314.5	314.5
54°	307.2	307.2	307.2	306.8	307.6	306.8	307.2	307.2	307.2	307.2	307.2
54.5°	300.0	300.0	300.0	299.6	300.4	299.6	300.0	300.0	300.0	300.0	300.0
55°	292.3	292.3	292.3	292.3	292.7	292.3	292.3	292.3	292.3	292.3	292.3
55.5°	284.7	284.7	285.1	284.7	285.1	284.7	285.1	284.7	284.7	284.7	285.1
56°	277.0	277.0	277.4	277.4	277.4	277.4	277.4	277.0	277.0	277.0	277.4
56.5°	269.3	269.7	269.7	269.7	269.7	269.7	269.7	269.7	269.3	269.7	269.7
57°	261.7	262.1	262.1	262.1	262.1	262.1	262.1	262.1	261.7	262.1	262.1
57.5°	254.0	254.4	254.8	254.8	254.8	254.8	254.8	254.4	254.0	254.4	254.8
58°	246.4	247.2	247.2	247.6	247.6	247.6	247.2	247.2	246.4	247.2	247.2
58.5°	238.7	239.9	239.9	240.3	240.3	240.3	239.9	239.9	238.7	239.9	239.9
59°	231.4	232.6	233.0	233.0	233.0	233.0	233.0	232.6	231.4	232.6	233.0
59.5°	224.6	225.8	226.2	226.2	226.2	226.2	226.2	225.8	224.6	225.8	226.2
60°	217.3	218.9	219.3	219.7	219.3	219.7	219.3	218.9	217.3	218.9	219.3
60.5°	210.5	212.1	212.9	212.9	212.9	212.9	212.9	212.1	210.5	212.1	212.9
61°	204.0	205.6	206.4	206.4	206.4	206.4	206.4	205.6	204.0	205.6	206.4
61.5°	197.6	199.2	200.0	200.4	200.4	200.4	200.0	199.2	197.6	199.2	200.0
62°	191.1	192.7	193.9	193.9	193.9	193.9	193.9	192.7	191.1	192.7	193.9
62.5°	185.1	186.7	187.9	187.9	187.9	187.9	187.9	186.7	185.1	186.7	187.9
63°	178.6	180.6	182.2	182.2	182.2	182.2	182.2	180.6	178.6	180.6	182.2
63.5°	173.0	175.0	176.2	176.6	176.6	176.6	176.2	175.0	173.0	175.0	176.2
64°	167.3	168.9	170.6	171.0	171.0	171.0	170.6	168.9	167.3	168.9	170.6
64.5°	161.7	163.3	165.3	165.3	165.3	165.3	165.3	163.3	161.7	163.3	165.3
65°	156.0	157.6	159.7	160.1	159.7	160.1	159.7	157.6	156.0	157.6	159.7
65.5°	150.8	152.4	154.4	154.8	154.8	154.8	154.4	152.4	150.8	152.4	154.4
66°	145.6	147.2	149.2	149.6	149.6	149.6	149.2	147.2	145.6	147.2	149.2



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	130.2	132.2	134.3	135.1	134.7	135.1	134.3	132.2	130.2	132.2	134.3
68°	125.4	127.4	129.8	130.2	130.2	130.2	129.8	127.4	125.4	127.4	129.8
68.5°	121.0	122.6	125.0	125.4	125.4	125.4	125.0	122.6	121.0	122.6	125.0
69°	116.1	118.1	120.6	121.0	121.0	121.0	120.6	118.1	116.1	118.1	120.6
69.5°	111.7	113.3	116.1	116.5	116.5	116.5	116.1	113.3	111.7	113.3	116.1
70°	107.3	108.9	111.7	112.1	112.1	112.1	111.7	108.9	107.3	108.9	111.7
70.5°	102.8	104.4	107.3	107.7	107.7	107.7	107.3	104.4	102.8	104.4	107.3
71°	98.8	100.4	102.8	103.6	103.6	103.6	102.8	100.4	98.8	100.4	102.8
71.5°	94.3	96.0	98.8	99.6	99.2	99.6	98.8	96.0	94.3	96.0	98.8
72°	90.3	91.9	94.8	95.6	95.2	95.6	94.8	91.9	90.3	91.9	94.8
72.5°	86.3	87.9	90.7	91.5	91.1	91.5	90.7	87.9	86.3	87.9	90.7
73°	82.3	83.9	86.7	87.5	87.5	87.5	86.7	83.9	82.3	83.9	86.7
73.5°	78.6	80.2	83.1	83.9	83.9	83.9	83.1	80.2	78.6	80.2	83.1
74°	75.0	76.6	79.0	80.2	79.8	80.2	79.0	76.6	75.0	76.6	79.0
74.5°	71.4	72.6	75.4	76.6	76.2	76.6	75.4	72.6	71.4	72.6	75.4
75°	67.7	68.9	71.8	73.0	73.0	73.0	71.8	68.9	67.7	68.9	71.8
75.5°	64.1	65.7	68.1	69.3	69.3	69.3	68.1	65.7	64.1	65.7	68.1
76°	60.9	62.1	64.9	66.1	65.7	66.1	64.9	62.1	60.9	62.1	64.9
76.5°	57.3	58.9	61.3	62.5	62.5	62.5	61.3	58.9	57.3	58.9	61.3
77°	54.0	55.6	58.1	59.3	59.3	59.3	58.1	55.6	54.0	55.6	58.1
77.5°	51.2	52.4	54.8	56.0	56.0	56.0	54.8	52.4	51.2	52.4	54.8
78°	48.0	49.2	51.6	53.2	52.8	53.2	51.6	49.2	48.0	49.2	51.6
78.5°	44.8	46.0	48.8	50.0	50.0	50.0	48.8	46.0	44.8	46.0	48.8
79°	41.9	43.1	45.6	47.2	46.8	47.2	45.6	43.1	41.9	43.1	45.6
79.5°	39.1	39.9	42.7	43.9	43.9	43.9	42.7	39.9	39.1	39.9	42.7
80°	36.3	37.1	39.9	41.1	41.1	41.1	39.9	37.1	36.3	37.1	39.9
80.5°	33.5	34.3	37.1	38.3	38.3	38.3	37.1	34.3	33.5	34.3	37.1
81°	30.6	31.4	34.3	35.5	35.5	35.5	34.3	31.4	30.6	31.4	34.3
81.5°	28.2	28.6	31.4	33.1	33.1	33.1	31.4	28.6	28.2	28.6	31.4
82°	25.4	26.2	28.6	30.2	30.2	30.2	28.6	26.2	25.4	26.2	28.6
82.5°	23.0	23.4	26.2	27.8	27.8	27.8	26.2	23.4	23.0	23.4	26.2
83°	20.6	21.0	23.8	25.4	25.0	25.4	23.8	21.0	20.6	21.0	23.8
83.5°	18.1	18.5	21.4	22.6	22.6	22.6	21.4	18.5	18.1	18.5	21.4
84°	15.7	16.1	19.0	20.2	20.2	20.2	19.0	16.1	15.7	16.1	19.0
84.5°	13.3	13.7	16.5	18.1	18.1	18.1	16.5	13.7	13.3	13.7	16.5
85°	11.3	11.7	14.5	15.7	15.7	15.7	14.5	11.7	11.3	11.7	14.5
85.5°	9.3	9.7	12.5	13.3	13.3	13.3	12.5	9.7	9.3	9.7	12.5
86°	7.3	8.1	10.5	11.3	11.3	11.3	10.5	8.1	7.3	8.1	10.5
86.5°	5.6	6.5	8.5	9.3	9.3	9.3	8.5	6.5	5.6	6.5	8.5
87°	4.4	4.8	6.5	7.3	7.3	7.3	6.5	4.8	4.4	4.8	6.5
87.5°	3.2	3.6	4.8	5.6	5.2	5.6	4.8	3.6	3.2	3.6	4.8
88°	2.0	2.4	3.6	4.0	3.2	4.0	3.6	2.4	2.0	2.4	3.6
88.5°	1.2	1.6	2.4	2.8	2.0	2.8	2.4	1.6	1.2	1.6	2.4



TEST NUMBER: P776483
CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2814.7	2814.7	2814.7	2814.7	2814.7	2814.7
0.5°	2814.3	2815.9	2814.3	2814.3	2813.5	2814.3
1°	2813.9	2815.1	2813.9	2813.9	2813.1	2813.9
1.5°	2812.7	2814.3	2812.7	2812.7	2811.9	2812.7
2°	2811.1	2812.7	2811.1	2811.1	2810.3	2811.1
2.5°	2809.5	2810.7	2809.5	2809.1	2808.3	2809.1
3°	2807.1	2808.7	2807.1	2806.6	2805.8	2806.6
3.5°	2804.2	2805.8	2804.2	2803.8	2803.0	2803.8
4°	2801.0	2802.6	2801.0	2800.6	2799.8	2800.2
4.5°	2797.4	2799.0	2797.4	2797.0	2796.2	2796.6
5°	2793.3	2795.0	2793.3	2792.5	2791.7	2792.5
5.5°	2788.9	2790.5	2788.9	2788.1	2787.3	2787.7
6°	2784.1	2785.3	2784.1	2783.3	2782.1	2782.9
6.5°	2778.8	2780.0	2778.8	2778.0	2776.8	2777.2
7°	2772.8	2774.4	2772.8	2772.0	2770.8	2771.6
7.5°	2766.7	2768.3	2766.7	2765.9	2764.3	2765.1
8°	2759.9	2761.9	2759.9	2759.1	2757.9	2758.3
8.5°	2753.0	2754.6	2753.0	2752.2	2750.6	2751.0
9°	2745.8	2747.4	2745.8	2744.6	2743.3	2743.7
9.5°	2737.7	2739.3	2737.7	2736.5	2735.3	2735.3
10°	2729.6	2731.3	2729.6	2728.4	2726.8	2727.2
10.5°	2720.8	2722.8	2720.8	2719.6	2717.9	2718.3
11°	2711.9	2713.5	2711.9	2710.3	2709.1	2709.1
11.5°	2702.2	2703.8	2702.2	2701.0	2699.4	2699.8
12°	2692.5	2694.2	2692.5	2690.9	2689.7	2689.7
12.5°	2682.5	2683.7	2682.5	2680.9	2679.2	2679.2
13°	2671.6	2673.2	2671.6	2670.4	2668.8	2668.8
13.5°	2661.1	2661.9	2661.1	2659.1	2657.5	2657.5
14°	2649.4	2650.6	2649.4	2647.8	2646.2	2646.6
14.5°	2637.7	2638.9	2637.7	2636.1	2634.5	2634.5
15°	2625.6	2626.4	2625.6	2624.4	2622.8	2622.4
15.5°	2613.1	2613.9	2613.1	2611.9	2610.3	2609.9
16°	2600.2	2601.0	2600.2	2599.0	2597.4	2597.4
16.5°	2586.9	2588.1	2586.9	2586.1	2584.5	2584.5
17°	2573.6	2574.4	2573.6	2572.4	2570.8	2570.8
17.5°	2559.5	2560.3	2559.5	2558.7	2557.1	2556.7
18°	2545.0	2545.8	2545.0	2544.2	2542.6	2542.6
18.5°	2530.1	2530.9	2530.1	2529.7	2528.0	2528.0
19°	2515.1	2515.5	2515.1	2514.3	2512.7	2512.7
19.5°	2499.4	2499.8	2499.4	2498.6	2497.4	2497.0
20°	2482.9	2483.7	2482.9	2482.5	2481.3	2481.3
20.5°	2465.9	2466.8	2465.9	2465.9	2464.7	2464.7
21°	2449.0	2449.4	2449.0	2449.0	2447.8	2447.8



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2393.8	2394.6	2393.8	2394.2	2393.4	2393.4
23°	2374.8	2375.2	2374.8	2374.8	2374.4	2374.4
23.5°	2355.1	2355.5	2355.1	2355.5	2355.1	2355.1
24°	2334.9	2335.3	2334.9	2335.3	2334.9	2335.3
24.5°	2314.7	2314.7	2314.7	2315.2	2314.3	2314.3
25°	2294.2	2294.2	2294.2	2294.2	2293.8	2293.8
25.5°	2273.2	2273.2	2273.2	2273.6	2272.8	2273.2
26°	2252.7	2252.3	2252.7	2252.3	2251.9	2252.3
26.5°	2231.3	2231.3	2231.3	2231.3	2231.3	2230.9
27°	2210.3	2209.9	2210.3	2210.3	2209.9	2209.9
27.5°	2189.4	2188.5	2189.4	2189.4	2188.5	2188.5
28°	2168.0	2168.0	2168.0	2168.4	2167.6	2167.6
28.5°	2147.0	2146.6	2147.0	2147.4	2146.6	2146.6
29°	2126.1	2126.1	2126.1	2126.5	2126.1	2125.2
29.5°	2105.9	2105.1	2105.9	2105.9	2105.1	2104.7
30°	2085.3	2084.5	2085.3	2085.3	2084.9	2084.5
30.5°	2065.2	2064.0	2065.2	2065.6	2065.2	2064.4
31°	2045.4	2045.0	2045.4	2045.8	2045.0	2044.6
31.5°	2025.7	2024.9	2025.7	2026.1	2025.7	2025.7
32°	2005.5	2005.5	2005.5	2005.9	2005.9	2005.9
32.5°	1983.7	1985.7	1983.7	1984.1	1984.5	1986.1
33°	1958.3	1965.2	1958.3	1959.5	1960.3	1964.4
33.5°	1929.7	1938.6	1929.7	1932.1	1931.7	1937.8
34°	1896.6	1907.1	1896.6	1901.5	1899.1	1905.9
34.5°	1861.2	1870.8	1861.2	1866.0	1862.0	1871.6
35°	1821.6	1828.1	1821.6	1824.9	1822.8	1831.7
35.5°	1776.9	1781.3	1776.9	1779.7	1782.1	1787.0
36°	1728.1	1735.0	1728.1	1731.3	1738.6	1737.8
36.5°	1676.5	1683.7	1676.5	1680.1	1689.8	1686.2
37°	1622.5	1631.3	1622.5	1627.3	1636.2	1632.9
37.5°	1567.2	1575.3	1567.2	1571.7	1577.7	1577.7
38°	1511.2	1518.8	1511.2	1514.8	1516.0	1520.0
38.5°	1453.1	1460.8	1453.1	1455.9	1452.7	1460.0
39°	1394.7	1402.7	1394.7	1395.1	1390.2	1397.1
39.5°	1335.4	1342.6	1335.4	1333.8	1328.1	1333.0
40°	1277.3	1281.0	1277.3	1272.9	1267.2	1266.0
40.5°	1218.9	1219.3	1218.9	1211.2	1205.2	1199.1
41°	1160.8	1158.0	1160.8	1151.9	1144.3	1134.2
41.5°	1103.1	1097.1	1103.1	1092.7	1081.8	1070.1
42°	1045.1	1038.6	1045.1	1033.8	1020.9	1008.8
42.5°	988.6	981.0	988.6	975.3	961.2	949.5
43°	932.6	926.1	932.6	919.3	903.6	891.9
43.5°	879.0	872.1	879.0	864.5	847.5	837.0



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	726.2	720.5	726.2	712.9	694.3	687.0
45.5°	679.8	675.4	679.8	667.3	649.5	643.1
46°	635.8	632.2	635.8	624.1	608.8	601.6
46.5°	594.7	591.9	594.7	582.6	571.7	563.7
47°	556.8	554.0	556.8	545.1	537.5	528.2
47.5°	521.7	518.5	521.7	510.4	506.4	496.7
48°	490.7	486.3	490.7	479.4	477.0	468.5
48.5°	461.7	456.4	461.7	452.0	450.0	443.1
49°	435.5	430.6	435.5	427.4	425.4	420.1
49.5°	412.5	406.8	412.5	406.4	404.0	400.4
50°	392.3	387.1	392.3	388.3	385.5	382.2
50.5°	375.4	370.1	375.4	372.2	369.7	367.3
51°	360.9	356.4	360.9	358.4	357.2	354.8
51.5°	348.4	345.5	348.4	347.6	346.3	344.3
52°	338.3	336.7	338.3	337.9	337.1	336.3
52.5°	329.4	329.4	329.4	329.4	329.0	328.6
53°	321.8	322.2	321.8	321.8	321.8	321.3
53.5°	314.1	314.9	314.1	314.5	314.5	314.5
54°	306.8	307.6	306.8	307.2	307.2	307.2
54.5°	299.6	300.4	299.6	300.0	300.0	300.0
55°	292.3	292.7	292.3	292.3	292.3	292.3
55.5°	284.7	285.1	284.7	285.1	284.7	284.7
56°	277.4	277.4	277.4	277.4	277.0	277.0
56.5°	269.7	269.7	269.7	269.7	269.7	269.3
57°	262.1	262.1	262.1	262.1	262.1	261.7
57.5°	254.8	254.8	254.8	254.8	254.4	254.0
58°	247.6	247.6	247.6	247.2	247.2	246.4
58.5°	240.3	240.3	240.3	239.9	239.9	238.7
59°	233.0	233.0	233.0	233.0	232.6	231.4
59.5°	226.2	226.2	226.2	226.2	225.8	224.6
60°	219.7	219.3	219.7	219.3	218.9	217.3
60.5°	212.9	212.9	212.9	212.9	212.1	210.5
61°	206.4	206.4	206.4	206.4	205.6	204.0
61.5°	200.4	200.4	200.4	200.0	199.2	197.6
62°	193.9	193.9	193.9	193.9	192.7	191.1
62.5°	187.9	187.9	187.9	187.9	186.7	185.1
63°	182.2	182.2	182.2	182.2	180.6	178.6
63.5°	176.6	176.6	176.6	176.2	175.0	173.0
64°	171.0	171.0	171.0	170.6	168.9	167.3
64.5°	165.3	165.3	165.3	165.3	163.3	161.7
65°	160.1	159.7	160.1	159.7	157.6	156.0
65.5°	154.8	154.8	154.8	154.4	152.4	150.8
66°	149.6	149.6	149.6	149.2	147.2	145.6



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	135.1	134.7	135.1	134.3	132.2	130.2
68°	130.2	130.2	130.2	129.8	127.4	125.4
68.5°	125.4	125.4	125.4	125.0	122.6	121.0
69°	121.0	121.0	121.0	120.6	118.1	116.1
69.5°	116.5	116.5	116.5	116.1	113.3	111.7
70°	112.1	112.1	112.1	111.7	108.9	107.3
70.5°	107.7	107.7	107.7	107.3	104.4	102.8
71°	103.6	103.6	103.6	102.8	100.4	98.8
71.5°	99.6	99.2	99.6	98.8	96.0	94.3
72°	95.6	95.2	95.6	94.8	91.9	90.3
72.5°	91.5	91.1	91.5	90.7	87.9	86.3
73°	87.5	87.5	87.5	86.7	83.9	82.3
73.5°	83.9	83.9	83.9	83.1	80.2	78.6
74°	80.2	79.8	80.2	79.0	76.6	75.0
74.5°	76.6	76.2	76.6	75.4	72.6	71.4
75°	73.0	73.0	73.0	71.8	68.9	67.7
75.5°	69.3	69.3	69.3	68.1	65.7	64.1
76°	66.1	65.7	66.1	64.9	62.1	60.9
76.5°	62.5	62.5	62.5	61.3	58.9	57.3
77°	59.3	59.3	59.3	58.1	55.6	54.0
77.5°	56.0	56.0	56.0	54.8	52.4	51.2
78°	53.2	52.8	53.2	51.6	49.2	48.0
78.5°	50.0	50.0	50.0	48.8	46.0	44.8
79°	47.2	46.8	47.2	45.6	43.1	41.9
79.5°	43.9	43.9	43.9	42.7	39.9	39.1
80°	41.1	41.1	41.1	39.9	37.1	36.3
80.5°	38.3	38.3	38.3	37.1	34.3	33.5
81°	35.5	35.5	35.5	34.3	31.4	30.6
81.5°	33.1	33.1	33.1	31.4	28.6	28.2
82°	30.2	30.2	30.2	28.6	26.2	25.4
82.5°	27.8	27.8	27.8	26.2	23.4	23.0
83°	25.4	25.0	25.4	23.8	21.0	20.6
83.5°	22.6	22.6	22.6	21.4	18.5	18.1
84°	20.2	20.2	20.2	19.0	16.1	15.7
84.5°	18.1	18.1	18.1	16.5	13.7	13.3
85°	15.7	15.7	15.7	14.5	11.7	11.3
85.5°	13.3	13.3	13.3	12.5	9.7	9.3
86°	11.3	11.3	11.3	10.5	8.1	7.3
86.5°	9.3	9.3	9.3	8.5	6.5	5.6
87°	7.3	7.3	7.3	6.5	4.8	4.4
87.5°	5.6	5.2	5.6	4.8	3.6	3.2
88°	4.0	3.2	4.0	3.6	2.4	2.0
88.5°	2.8	2.0	2.8	2.4	1.6	1.2



TEST NUMBER: P776483

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRMW-4000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	0.0	0.4	0.4	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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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	2430.1	2430.5	2431.3	2431.3	2431.7	2431.3	2431.3	2430.5	2430.1	2430.5	2431.3
22°	2412.3	2412.3	2412.7	2412.7	2413.5	2412.7	2412.7	2412.3	2412.3	2412.3	2412.7



44°	784.6	793.5	812.0	825.7	819.7	825.7	812.0	793.5	784.6	793.5	812.0
44.5°	735.0	742.3	761.2	775.3	768.9	775.3	761.2	742.3	735.0	742.3	761.2



66.5°	139.9	141.9	143.9	144.3	144.7	144.3	143.9	141.9	139.9	141.9	143.9
67°	135.1	136.7	139.1	139.9	139.9	139.9	139.1	136.7	135.1	136.7	139.1



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

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21.5°	2431.3	2431.7	2431.3	2431.3	2430.5	2430.1
22°	2412.7	2413.5	2412.7	2412.7	2412.3	2412.3



44°	825.7	819.7	825.7	812.0	793.5	784.6
44.5°	775.3	768.9	775.3	761.2	742.3	735.0



66.5°	144.3	144.7	144.3	143.9	141.9	139.9
67°	139.9	139.9	139.9	139.1	136.7	135.1

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

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Peachtree City, GA 30269

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(END OF REPORT)