

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: P776625

Luminaire Tested: HCDJBS4050CSD-HCD4TSQH-5000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776625
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-HCD4TSQH-5000lm-2700K
Description: 4 INCH SQUARE MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

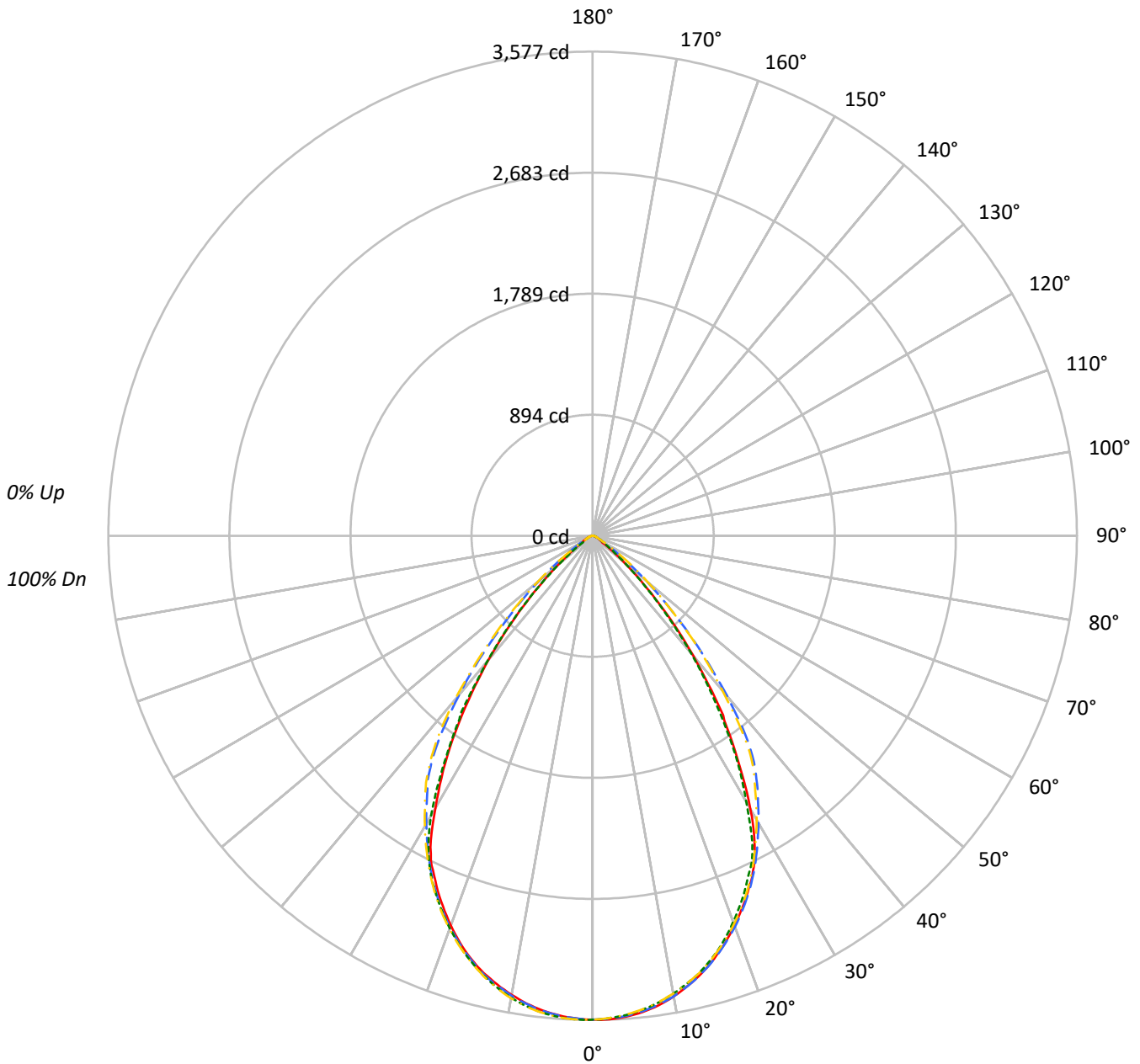
Lumens per Lamp: N/A
Luminaire Lumens: 4576.1 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.09
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 48
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					100			
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	85	84					84			
3	100	93	87	82	98	91	86	82	88	84	80	86	82	79	84	81	78	76					76			
4	94	85	79	74	92	84	78	74	82	77	73	80	76	72	78	74	71	70					70			
5	88	79	72	67	87	78	72	67	76	71	66	74	70	66	73	69	65	64					64			
6	83	73	66	61	82	72	66	61	71	65	61	69	64	60	68	63	60	58					58			
7	78	68	61	56	77	67	61	56	66	60	56	65	59	56	63	59	55	54					54			
8	74	63	56	52	73	63	56	52	61	56	51	60	55	51	59	55	51	49					49			
9	70	59	52	48	69	58	52	48	57	52	48	57	51	47	56	51	47	46					46			
10	66	55	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	353321	353321	353321	353321
5°	352369	350831	351278	352677
10°	346748	344640	345604	347752
15°	336928	335107	336887	338422
20°	322373	319354	322184	324677
25°	303951	298880	302064	306536
30°	266250	259333	265154	272128
35°	208930	204477	212996	215856
40°	148655	145481	154345	155880
45°	90860	88581	96339	96912
50°	44624	46024	49668	48053
55°	16716	23074	24332	18680
60°	12158	15400	15578	12336
65°	9589	12138	12349	9917
70°	7629	9739	9884	8034
75°	5919	7638	7638	6607
80°	3871	5977	5692	5180
85°	1588	4650	2608	3629

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 45°
 Luminance: 139393 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.3	7.3
10°-20°	924.4	20.2
20°-30°	1272.2	27.8
30°-40°	1168.8	25.5
40°-50°	632.1	13.8
50°-60°	170.3	3.7
60°-70°	48.6	1.1
70°-80°	20.4	0.4
80°-90°	3.9	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°	2532.0	55.3
0°-40°	3700.8	80.9
0°-60°	4503.2	98.4
0°-90°	4576.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4576.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3575	3575	3575	3575	3575	
5°	3551	3536	3540	3554	3551	336
15°	3293	3275	3292	3307	3293	924
25°	2787	2740	2770	2811	2787	1265
35°	1732	1695	1765	1789	1732	1076
45°	650	634	689	693	650	513
55°	97	134	141	108	97	113
65°	41	52	53	42	41	41
75°	16	20	20	17	16	17
85°	1	4	2	3	1	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°	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6
0.5°	3576.4	3575.0	3573.7	3572.3	3574.6	3572.3	3573.2	3573.7	3575.0	3575.0	3573.2
1°	3576.4	3574.1	3572.3	3571.4	3572.8	3570.5	3570.9	3571.4	3573.2	3574.1	3572.3
1.5°	3575.0	3572.3	3571.9	3569.1	3569.6	3566.8	3568.2	3568.7	3571.4	3571.9	3570.0
2°	3574.1	3570.9	3569.1	3566.8	3565.9	3564.1	3564.6	3565.5	3567.8	3569.6	3567.8
2.5°	3571.9	3568.7	3566.8	3563.7	3562.3	3560.0	3560.9	3561.4	3565.0	3566.4	3565.0
3°	3569.1	3564.6	3563.7	3560.5	3558.6	3555.5	3556.4	3557.3	3561.4	3563.7	3561.4
3.5°	3565.5	3560.9	3559.6	3556.4	3554.1	3550.4	3550.9	3552.3	3556.8	3559.6	3557.7
4°	3561.4	3556.4	3556.4	3551.8	3548.6	3545.4	3545.4	3547.3	3551.4	3555.5	3553.2
4.5°	3556.8	3550.9	3550.4	3546.8	3542.2	3538.6	3539.5	3541.3	3546.3	3550.9	3547.7
5°	3551.4	3545.0	3545.0	3540.4	3535.9	3532.2	3532.7	3535.0	3540.4	3544.5	3541.8
5.5°	3544.5	3538.6	3539.1	3534.0	3528.6	3524.5	3525.4	3527.7	3533.6	3539.1	3535.4
6°	3538.1	3530.9	3531.8	3526.8	3520.8	3516.3	3517.6	3520.4	3525.8	3531.8	3528.1
6.5°	3530.4	3523.1	3524.5	3519.5	3512.2	3507.6	3509.0	3511.7	3518.1	3524.9	3520.8
7°	3521.7	3514.0	3515.8	3510.4	3503.1	3498.1	3500.3	3503.5	3509.4	3516.7	3512.6
7.5°	3512.6	3504.9	3507.2	3502.2	3493.0	3488.5	3490.3	3494.0	3499.9	3508.1	3503.5
8°	3503.1	3494.9	3498.5	3491.2	3482.6	3477.1	3479.8	3483.0	3490.3	3498.5	3494.0
8.5°	3492.1	3484.4	3488.0	3480.3	3470.7	3466.6	3469.4	3472.5	3479.4	3488.0	3483.9
9°	3480.7	3473.5	3477.1	3469.4	3459.3	3454.3	3457.5	3461.2	3468.0	3477.1	3473.5
9.5°	3468.4	3460.3	3466.2	3458.0	3446.6	3442.0	3445.2	3448.9	3455.7	3466.2	3461.6
10°	3454.8	3447.5	3453.4	3444.8	3433.8	3429.3	3432.9	3436.6	3443.4	3454.3	3449.8
10.5°	3441.6	3433.4	3440.7	3431.6	3420.6	3416.1	3420.2	3423.4	3430.2	3442.0	3436.6
11°	3427.5	3419.3	3428.4	3417.9	3407.0	3402.4	3406.5	3409.7	3417.0	3428.8	3423.4
11.5°	3412.9	3404.7	3412.9	3403.8	3391.9	3387.4	3391.5	3396.9	3403.8	3415.2	3409.2
12°	3396.9	3388.7	3398.3	3388.3	3376.9	3372.8	3376.9	3381.9	3388.7	3401.9	3399.7
12.5°	3381.4	3372.3	3381.9	3372.8	3361.9	3357.8	3361.9	3367.3	3373.7	3386.5	3384.2
13°	3365.0	3355.9	3366.4	3356.4	3347.3	3342.7	3346.8	3352.3	3358.7	3371.4	3368.7
13.5°	3348.2	3338.2	3349.6	3339.5	3331.8	3327.7	3331.8	3337.7	3343.6	3356.4	3353.2
14°	3330.4	3320.9	3331.3	3322.2	3313.6	3309.0	3314.5	3319.5	3328.6	3341.4	3338.2
14.5°	3311.3	3301.3	3312.7	3304.5	3294.4	3290.3	3295.8	3300.8	3310.8	3326.3	3316.8
15°	3292.6	3282.1	3294.4	3286.2	3274.8	3271.7	3276.2	3282.6	3292.2	3308.1	3298.1
15.5°	3272.6	3262.5	3275.3	3266.2	3254.8	3251.2	3256.2	3262.5	3272.6	3289.4	3278.5
16°	3252.5	3242.0	3254.3	3245.7	3234.3	3231.1	3235.7	3243.0	3252.5	3269.8	3258.9
16.5°	3230.7	3222.0	3233.4	3225.2	3212.4	3209.2	3215.2	3222.0	3232.5	3249.3	3238.4
17°	3209.2	3199.2	3212.9	3204.2	3190.1	3187.8	3193.8	3201.1	3211.5	3228.8	3217.0
17.5°	3186.9	3177.4	3190.6	3181.9	3166.9	3165.5	3171.4	3178.3	3188.3	3207.9	3195.1
18°	3163.7	3154.1	3168.7	3158.7	3141.4	3141.8	3149.1	3156.0	3164.2	3186.0	3173.3
18.5°	3138.6	3130.0	3145.0	3135.9	3115.9	3117.2	3125.4	3132.3	3140.0	3162.8	3150.5
19°	3115.0	3105.4	3122.2	3111.8	3089.4	3091.7	3101.7	3107.7	3115.0	3138.6	3126.8
19.5°	3089.9	3080.8	3098.1	3085.8	3063.5	3065.8	3077.6	3082.6	3089.4	3113.6	3102.7
20°	3064.8	3055.3	3074.0	3059.4	3036.1	3038.4	3053.0	3056.6	3063.0	3088.1	3078.5
20.5°	3038.4	3029.3	3048.9	3032.5	3008.8	3011.1	3027.0	3029.8	3036.1	3062.1	3052.5
21°	3011.5	3002.0	3022.0	3004.7	2980.6	2983.3	3001.1	3002.4	3008.8	3034.8	3027.0



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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°	2929.6	2918.6	2941.4	2918.2	2894.9	2897.2	2919.5	2916.8	2923.6	2950.5	2946.9
23°	2899.0	2889.9	2913.2	2887.6	2864.4	2867.1	2891.7	2886.3	2894.9	2921.4	2918.6
23.5°	2870.8	2861.2	2883.5	2858.9	2832.5	2838.0	2862.1	2856.7	2864.4	2891.7	2889.0
24°	2841.6	2830.7	2854.8	2828.0	2799.7	2807.0	2832.1	2826.6	2833.4	2862.1	2858.9
24.5°	2815.2	2800.6	2824.3	2797.9	2769.2	2775.1	2800.2	2796.1	2801.1	2831.6	2828.0
25°	2787.0	2768.7	2792.9	2764.6	2740.5	2742.3	2768.7	2764.6	2769.7	2800.2	2797.0
25.5°	2750.1	2739.1	2760.5	2731.8	2711.8	2709.1	2735.9	2732.3	2740.0	2767.4	2765.1
26°	2716.8	2710.4	2726.8	2697.7	2683.1	2676.7	2703.1	2699.5	2712.3	2734.6	2733.2
26.5°	2680.8	2682.2	2694.5	2665.3	2641.2	2646.2	2669.0	2665.8	2678.1	2701.3	2699.5
27°	2638.0	2644.8	2660.8	2633.9	2597.0	2617.1	2634.8	2633.5	2633.5	2670.8	2665.8
27.5°	2593.4	2608.9	2626.6	2604.8	2555.6	2587.0	2600.2	2602.0	2594.3	2642.1	2631.6
28°	2546.4	2570.6	2591.1	2575.1	2498.6	2552.4	2565.1	2572.4	2546.0	2610.7	2597.0
28.5°	2497.2	2530.5	2556.9	2542.3	2440.8	2505.4	2530.0	2538.2	2490.9	2566.0	2562.8
29°	2446.2	2486.8	2520.9	2497.2	2385.2	2466.7	2495.0	2494.5	2435.3	2525.5	2527.3
29.5°	2390.2	2441.2	2486.8	2455.3	2328.2	2418.9	2458.1	2454.4	2378.4	2484.5	2492.7
30°	2332.8	2391.6	2451.7	2410.7	2272.2	2362.4	2422.5	2409.3	2323.2	2431.7	2457.2
30.5°	2272.2	2343.7	2415.7	2356.0	2217.5	2305.9	2385.6	2355.1	2266.7	2375.2	2421.6
31°	2211.2	2288.6	2379.3	2299.1	2163.3	2251.3	2348.3	2301.8	2213.4	2320.5	2385.2
31.5°	2149.2	2234.9	2342.8	2243.5	2108.7	2195.2	2310.5	2245.8	2160.2	2264.5	2347.8
32°	2085.9	2175.2	2305.9	2188.4	2055.4	2141.0	2274.0	2191.1	2106.4	2210.3	2311.8
32.5°	2024.9	2118.2	2271.8	2132.8	1998.9	2088.2	2236.7	2136.5	2051.7	2156.1	2274.9
33°	1965.2	2057.7	2238.5	2079.1	1941.9	2036.2	2201.6	2084.5	1997.5	2102.8	2240.3
33.5°	1906.0	1996.2	2203.0	2025.8	1880.5	1982.9	2167.4	2030.8	1942.4	2049.0	2209.8
34°	1848.1	1936.9	2162.4	1972.9	1820.3	1930.1	2134.2	1979.8	1885.0	1996.2	2178.4
34.5°	1789.8	1877.3	2127.4	1919.2	1756.5	1875.0	2099.1	1926.9	1824.9	1942.9	2132.4
35°	1731.5	1817.6	2091.4	1865.0	1694.6	1822.6	2060.4	1876.4	1765.2	1889.1	2085.9
35.5°	1674.5	1761.1	2052.6	1809.4	1632.2	1764.3	2017.6	1822.6	1705.5	1833.5	2045.8
36°	1639.5	1705.1	2007.1	1753.4	1573.4	1706.4	1974.3	1770.2	1645.4	1778.0	1996.2
36.5°	1575.7	1650.4	1954.7	1695.5	1513.7	1647.7	1919.2	1714.6	1585.7	1721.0	1941.0
37°	1510.6	1595.3	1905.5	1636.7	1456.8	1588.9	1864.1	1659.1	1525.1	1662.7	1884.6
37.5°	1445.4	1539.7	1852.7	1579.8	1400.8	1528.8	1804.8	1603.0	1468.2	1603.5	1827.6
38°	1380.3	1484.6	1791.2	1522.9	1346.1	1471.4	1740.6	1546.5	1412.6	1546.5	1769.8
38.5°	1322.0	1429.5	1727.4	1466.4	1291.0	1415.8	1676.8	1489.1	1357.5	1487.8	1711.9
39°	1264.1	1373.9	1665.4	1409.4	1238.1	1361.6	1613.1	1433.1	1302.4	1432.2	1652.7
39.5°	1207.6	1317.4	1603.9	1352.5	1182.6	1310.6	1552.0	1378.0	1248.6	1377.1	1593.9
40°	1152.1	1261.8	1542.4	1298.3	1127.5	1256.8	1491.9	1325.2	1196.2	1322.9	1534.7
40.5°	1098.8	1205.3	1480.9	1245.9	1071.9	1205.3	1434.0	1270.9	1141.6	1269.1	1476.4
41°	1045.5	1151.6	1419.0	1194.4	1018.6	1155.2	1377.5	1219.9	1087.4	1217.2	1416.3
41.5°	992.6	1098.8	1357.5	1143.4	963.9	1105.6	1322.0	1169.8	1032.2	1166.6	1358.0
42°	941.6	1047.7	1298.7	1091.5	912.4	1053.2	1267.8	1119.7	979.4	1115.2	1298.3
42.5°	890.6	996.7	1241.3	1041.4	862.3	1001.7	1215.4	1070.5	927.9	1064.6	1240.0
43°	840.9	947.5	1184.4	990.8	813.6	951.6	1163.4	1020.4	877.8	1013.1	1180.7
43.5°	789.9	899.7	1128.8	940.7	765.8	902.9	1111.5	971.2	828.6	962.5	1124.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	650.0	759.4	965.7	795.4	633.7	760.3	956.6	827.3	689.2	816.8	959.4
45.5°	606.3	713.4	912.4	750.3	591.3	717.5	907.0	780.3	645.5	770.8	908.3
46°	564.4	669.6	861.4	705.6	549.8	674.2	857.3	736.1	603.1	726.1	857.3
46.5°	523.4	626.8	811.8	663.7	511.1	632.7	809.9	692.4	562.1	683.3	808.6
47°	484.7	585.8	763.0	622.7	474.2	592.2	764.4	650.5	521.6	640.9	762.1
47.5°	448.7	545.7	716.1	582.2	439.6	553.0	720.2	608.6	483.8	599.0	716.6
48°	413.6	507.5	671.5	542.5	410.4	514.8	679.2	569.0	447.8	560.3	672.4
48.5°	380.8	471.5	628.6	504.7	381.3	478.3	638.2	531.2	416.4	521.6	629.6
49°	349.4	436.9	587.6	469.7	352.1	443.7	599.5	493.3	385.4	484.7	590.4
49.5°	318.9	403.6	548.9	435.0	323.4	413.6	562.6	457.8	354.0	449.2	548.9
50°	290.2	371.7	511.1	401.3	299.3	383.6	527.1	427.3	323.0	417.7	510.7
50.5°	263.8	340.7	473.8	369.0	277.0	353.5	493.3	396.8	297.9	385.8	475.1
51°	239.2	312.0	439.1	339.8	257.8	323.4	459.2	365.8	274.7	354.0	441.9
51.5°	216.4	285.2	405.9	312.5	239.6	298.8	429.6	335.3	253.7	322.5	410.9
52°	195.0	259.7	374.9	287.0	222.3	276.1	400.9	304.8	234.1	295.6	380.4
52.5°	175.4	235.1	344.4	264.2	205.9	255.1	371.7	279.2	216.8	271.5	349.9
53°	157.2	212.3	316.6	243.3	190.4	236.0	342.6	256.0	200.0	249.6	319.3
53.5°	142.1	191.8	290.2	224.6	176.3	218.7	313.4	235.1	184.5	229.6	291.5
54°	127.1	172.6	265.6	206.8	161.7	202.7	288.8	215.9	169.5	211.4	266.9
54.5°	112.1	154.4	241.9	190.4	147.6	187.2	265.6	198.2	154.9	194.1	244.2
55°	97.0	137.6	221.4	175.8	133.9	172.6	243.7	182.2	141.2	178.6	222.3
55.5°	87.0	125.3	201.3	161.3	121.6	159.0	223.2	167.2	127.6	164.0	202.3
56°	83.4	113.4	183.1	149.4	110.7	145.3	204.1	152.6	115.7	149.9	183.6
56.5°	80.2	101.1	166.3	137.1	103.0	132.1	186.3	139.4	106.1	136.7	166.7
57°	77.4	89.3	154.0	124.8	98.4	119.4	169.9	126.6	99.3	123.5	150.8
57.5°	74.3	77.0	141.2	112.5	94.8	108.0	154.9	114.3	95.7	111.2	136.7
58°	71.5	74.3	128.9	102.0	91.1	97.5	140.8	102.5	92.0	100.7	123.9
58.5°	68.8	71.5	116.6	92.9	87.9	89.7	128.5	92.9	88.4	92.5	112.1
59°	66.1	68.8	104.3	86.1	84.3	85.6	116.6	85.6	85.2	87.0	102.0
59.5°	63.8	66.1	95.2	82.5	81.1	82.0	106.6	81.5	82.0	83.8	93.4
60°	61.5	63.8	87.5	78.8	77.9	78.8	97.5	78.4	78.8	80.6	85.6
60.5°	58.8	61.5	80.2	76.1	74.7	76.1	89.3	75.2	75.6	77.4	78.4
61°	56.5	58.8	74.3	72.9	72.0	72.9	82.0	72.0	72.9	74.3	72.9
61.5°	54.7	56.9	68.8	70.2	69.2	70.2	75.6	69.2	70.2	71.5	67.4
62°	52.4	54.7	64.2	67.0	66.5	67.4	70.2	66.5	67.0	68.8	62.9
62.5°	50.1	52.4	59.7	64.7	63.8	64.7	65.6	63.8	64.7	66.1	58.8
63°	48.3	50.6	56.0	62.0	61.0	62.0	61.0	61.5	62.0	63.3	55.6
63.5°	46.5	48.3	52.8	59.2	58.8	59.7	57.4	58.8	59.7	61.0	52.4
64°	44.6	46.5	50.6	56.9	56.5	57.4	53.8	56.5	56.9	58.3	50.1
64.5°	42.8	44.6	48.7	54.7	54.2	55.1	51.0	54.2	54.7	56.0	47.8
65°	41.0	43.3	46.5	52.4	51.9	52.8	48.7	51.9	52.8	53.8	46.0
65.5°	39.6	41.5	44.6	50.6	49.7	50.6	46.9	49.7	50.6	51.5	44.2
66°	37.8	39.6	43.3	48.3	47.4	48.7	45.1	47.8	48.3	49.7	42.4



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	33.3	35.1	38.3	42.4	41.9	42.8	40.1	41.9	42.4	43.7	37.4
68°	31.9	33.7	36.4	40.5	40.1	41.0	38.3	40.1	40.5	41.9	36.0
68.5°	30.5	31.9	35.1	39.2	38.3	39.2	36.9	38.3	38.7	40.1	34.6
69°	29.2	30.5	33.7	37.4	36.9	37.8	35.1	36.9	37.4	38.3	33.3
69.5°	27.8	29.2	32.3	36.0	35.1	36.0	33.7	35.1	35.5	36.4	31.9
70°	26.4	27.8	31.0	34.2	33.7	34.6	32.3	33.7	34.2	35.1	30.1
70.5°	25.1	26.9	29.6	32.8	31.9	33.3	30.5	31.9	32.3	33.3	29.2
71°	24.1	25.5	28.2	31.4	30.5	31.4	29.2	30.5	31.0	31.9	27.8
71.5°	22.8	24.1	26.9	29.6	29.2	30.1	27.8	29.2	29.2	30.1	26.4
72°	21.9	23.2	25.5	28.7	27.8	28.7	26.9	27.8	27.8	28.7	25.1
72.5°	20.5	21.9	24.6	27.3	26.4	27.3	25.5	26.4	26.4	27.3	24.1
73°	19.6	21.0	23.2	26.0	25.1	26.0	24.1	25.1	25.1	26.0	22.8
73.5°	18.2	19.6	21.9	24.6	23.7	24.6	23.2	23.7	23.7	24.6	21.9
74°	17.3	18.7	21.0	23.2	22.8	23.7	21.9	22.3	22.8	23.7	21.0
74.5°	16.4	17.8	20.0	22.3	21.4	22.3	21.0	21.4	21.4	22.3	19.6
75°	15.5	16.4	18.7	21.0	20.0	21.4	19.6	20.0	20.0	21.0	18.7
75.5°	14.6	15.5	17.8	20.0	19.1	20.0	18.7	19.1	19.1	20.0	17.8
76°	13.2	14.6	16.9	19.1	18.2	19.1	17.8	17.8	17.8	18.7	16.9
76.5°	12.3	13.7	15.9	17.8	16.9	18.2	16.9	16.9	16.9	17.8	15.5
77°	11.8	12.8	15.0	16.9	15.9	16.9	15.9	15.5	15.5	16.4	14.6
77.5°	10.9	11.8	14.1	15.9	15.0	15.9	15.0	14.6	14.6	15.5	13.7
78°	10.0	10.9	13.2	15.0	14.1	15.0	14.1	13.7	13.7	14.6	12.8
78.5°	9.1	10.0	12.3	14.1	13.2	14.1	13.2	12.8	12.8	13.2	12.3
79°	8.7	9.1	11.4	13.2	12.3	13.2	12.3	11.8	11.8	12.3	11.4
79.5°	7.7	8.2	10.9	12.3	11.4	12.3	11.4	10.9	10.9	11.4	10.5
80°	6.8	7.7	10.0	11.4	10.5	11.4	10.9	10.0	10.0	10.5	9.6
80.5°	6.4	6.8	9.1	10.5	10.0	10.5	10.0	9.1	9.1	9.6	9.1
81°	5.5	5.9	8.7	9.6	9.1	9.6	9.1	8.2	8.2	8.7	8.2
81.5°	5.0	5.5	7.7	8.7	8.2	9.1	8.7	7.3	7.3	7.7	7.7
82°	4.6	4.6	7.3	8.2	7.7	8.2	7.7	6.8	6.8	6.8	6.8
82.5°	3.6	4.1	6.4	7.3	6.8	7.7	7.3	5.9	5.9	5.9	6.4
83°	3.2	3.6	5.9	6.8	6.4	6.8	6.4	5.5	5.0	5.5	5.5
83.5°	2.3	2.7	5.0	5.9	5.9	6.4	5.9	4.6	4.6	4.6	5.0
84°	1.8	2.3	4.6	5.5	5.0	5.5	5.5	4.1	3.6	4.1	4.6
84.5°	1.8	1.8	4.1	4.6	4.6	5.0	4.6	3.6	3.2	3.2	4.1
85°	1.4	1.8	3.6	4.1	4.1	4.6	4.1	2.7	2.3	2.7	3.6
85.5°	0.9	1.4	3.2	3.6	3.2	3.6	3.6	2.3	1.8	2.3	2.7
86°	0.9	0.9	2.3	2.7	2.7	3.2	3.2	1.8	1.8	1.8	2.3
86.5°	0.9	0.9	1.8	2.3	2.3	2.7	2.7	1.8	1.4	1.4	1.8
87°	0.5	0.5	1.4	1.8	1.8	1.8	2.3	1.4	1.4	1.4	1.4
87.5°	0.0	0.5	0.9	1.4	1.4	1.4	1.8	0.9	0.9	0.9	0.9
88°	0.0	0.0	0.5	0.9	0.9	0.9	1.4	0.9	0.9	0.9	0.5
88.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

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: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3574.6	3574.6	3574.6	3574.6	3574.6	3574.6
0.5°	3573.7	3576.9	3575.0	3576.0	3575.0	3576.4
1°	3573.2	3576.4	3575.0	3576.0	3575.0	3576.4
1.5°	3571.9	3576.4	3575.0	3575.5	3575.0	3575.0
2°	3570.0	3575.0	3574.6	3574.6	3574.1	3574.1
2.5°	3567.8	3574.1	3572.8	3574.1	3572.3	3571.9
3°	3564.6	3571.9	3570.5	3571.4	3570.0	3569.1
3.5°	3560.9	3568.2	3567.8	3568.7	3566.8	3565.5
4°	3556.4	3564.1	3564.1	3565.0	3563.7	3561.4
4.5°	3551.4	3559.6	3560.0	3560.9	3559.1	3556.8
5°	3545.9	3554.5	3555.0	3555.9	3554.1	3551.4
5.5°	3539.5	3549.1	3549.5	3550.0	3548.2	3544.5
6°	3532.7	3542.2	3543.2	3544.1	3541.8	3538.1
6.5°	3524.9	3535.0	3536.3	3536.8	3534.5	3530.4
7°	3516.7	3527.2	3528.6	3529.5	3526.8	3521.7
7.5°	3507.6	3519.0	3520.8	3520.8	3518.1	3512.6
8°	3497.6	3509.0	3511.3	3512.2	3508.5	3503.1
8.5°	3487.6	3499.4	3501.7	3502.2	3498.5	3492.1
9°	3477.1	3488.0	3491.7	3492.1	3487.1	3480.7
9.5°	3465.3	3476.2	3479.8	3480.7	3476.6	3468.4
10°	3453.0	3464.8	3467.5	3469.4	3463.9	3454.8
10.5°	3439.8	3452.1	3455.2	3456.6	3451.1	3441.6
11°	3427.0	3437.9	3441.6	3442.9	3437.5	3427.5
11.5°	3412.9	3424.3	3427.5	3429.3	3423.4	3412.9
12°	3398.3	3408.8	3412.9	3414.7	3407.4	3396.9
12.5°	3381.9	3393.7	3397.4	3398.8	3392.4	3381.4
13°	3366.0	3377.8	3381.9	3383.7	3376.4	3365.0
13.5°	3350.0	3361.4	3365.5	3366.4	3359.1	3348.2
14°	3333.6	3344.5	3348.6	3348.2	3341.8	3330.4
14.5°	3320.9	3326.3	3330.9	3329.5	3323.6	3311.3
15°	3302.2	3307.2	3312.7	3310.8	3304.9	3292.6
15.5°	3282.6	3288.5	3292.2	3291.7	3285.3	3272.6
16°	3262.5	3268.5	3273.0	3272.6	3265.3	3252.5
16.5°	3242.0	3248.0	3253.0	3251.6	3245.2	3230.7
17°	3220.6	3226.1	3232.0	3230.2	3224.3	3209.2
17.5°	3198.8	3204.7	3210.2	3208.8	3202.0	3186.9
18°	3176.0	3181.5	3187.8	3186.5	3179.6	3163.7
18.5°	3152.8	3158.7	3165.1	3162.8	3155.5	3138.6
19°	3129.5	3135.0	3141.4	3140.0	3131.4	3115.0
19.5°	3104.5	3111.3	3116.8	3115.9	3107.2	3089.9
20°	3079.4	3086.7	3092.6	3091.7	3082.2	3064.8
20.5°	3053.9	3060.7	3067.1	3066.2	3056.2	3038.4
21°	3027.5	3034.8	3040.2	3040.7	3028.9	3011.5



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2945.5	2952.8	2958.7	2960.1	2946.4	2929.6
23°	2917.7	2924.5	2930.0	2931.8	2917.7	2899.0
23.5°	2888.6	2895.4	2901.3	2902.7	2888.6	2870.8
24°	2858.0	2865.3	2871.7	2873.1	2859.4	2841.6
24.5°	2828.4	2836.6	2841.6	2842.5	2829.3	2815.2
25°	2798.4	2810.7	2810.2	2812.0	2798.4	2787.0
25.5°	2766.5	2775.1	2778.8	2780.6	2766.5	2750.1
26°	2734.1	2741.0	2749.2	2747.8	2736.4	2716.8
26.5°	2706.3	2706.3	2721.4	2715.9	2708.2	2680.8
27°	2675.4	2665.8	2684.0	2683.6	2679.5	2638.0
27.5°	2636.6	2625.7	2649.4	2649.9	2642.6	2593.4
28°	2602.5	2582.4	2613.4	2615.2	2605.7	2546.4
28.5°	2564.7	2536.9	2573.8	2582.0	2569.7	2497.2
29°	2525.5	2487.7	2533.7	2548.3	2529.1	2446.2
29.5°	2482.7	2438.0	2490.0	2513.6	2486.8	2390.2
30°	2439.4	2384.3	2444.9	2479.0	2441.7	2332.8
30.5°	2392.9	2327.3	2398.4	2443.9	2392.9	2272.2
31°	2345.1	2266.7	2347.4	2408.4	2343.3	2211.2
31.5°	2294.5	2209.3	2295.0	2372.4	2290.4	2149.2
32°	2243.1	2147.4	2241.2	2336.9	2236.7	2085.9
32.5°	2187.5	2084.5	2184.3	2305.0	2180.2	2024.9
33°	2130.1	2024.9	2124.6	2269.9	2121.0	1965.2
33.5°	2071.3	1964.7	2064.9	2232.6	2061.3	1906.0
34°	2013.0	1906.0	2005.3	2199.3	2001.6	1848.1
34.5°	1952.4	1845.8	1946.5	2160.2	1941.9	1789.8
35°	1894.1	1788.9	1886.8	2116.0	1882.3	1731.5
35.5°	1836.7	1731.9	1828.1	2072.7	1825.3	1674.5
36°	1779.8	1675.5	1772.0	2029.0	1769.3	1639.5
36.5°	1722.4	1642.7	1716.5	1980.2	1713.3	1575.7
37°	1667.3	1578.4	1660.9	1929.6	1658.6	1510.6
37.5°	1612.6	1512.4	1605.3	1877.3	1603.5	1445.4
38°	1558.4	1446.3	1549.7	1822.1	1548.8	1380.3
38.5°	1503.3	1380.3	1494.2	1766.1	1493.7	1322.0
39°	1448.1	1323.3	1438.6	1706.9	1438.6	1264.1
39.5°	1393.0	1265.0	1383.0	1648.6	1383.9	1207.6
40°	1337.5	1208.1	1326.1	1586.2	1326.5	1152.1
40.5°	1281.9	1153.0	1269.1	1523.3	1270.9	1098.8
41°	1226.3	1100.1	1214.0	1460.9	1216.7	1045.5
41.5°	1172.5	1045.5	1159.3	1398.5	1163.0	992.6
42°	1120.2	994.0	1107.0	1336.1	1111.1	941.6
42.5°	1068.2	943.4	1054.6	1276.0	1059.1	890.6
43°	1017.7	890.1	1004.5	1217.2	1009.0	840.9
43.5°	968.0	839.1	954.3	1159.8	958.9	789.9



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	826.8	693.3	808.6	997.2	816.8	650.0
45.5°	781.2	647.8	761.2	946.6	770.8	606.3
46°	736.1	603.6	715.6	896.5	726.1	564.4
46.5°	691.0	561.2	669.2	845.9	681.5	523.4
47°	648.2	520.7	626.4	797.2	639.6	484.7
47.5°	606.3	481.0	584.0	749.4	597.7	448.7
48°	565.8	443.2	543.0	704.3	557.6	413.6
48.5°	527.1	408.2	504.3	658.2	517.9	380.8
49°	489.2	374.5	466.9	615.0	482.0	349.4
49.5°	454.2	343.0	430.0	573.1	446.0	318.9
50°	421.8	312.5	396.3	532.1	410.4	290.2
50.5°	389.5	283.3	364.0	493.8	377.6	263.8
51°	357.1	256.9	332.1	456.9	346.7	239.2
51.5°	325.3	232.8	303.4	421.4	317.1	216.4
52°	296.1	210.5	276.5	388.1	289.3	195.0
52.5°	269.2	189.0	250.1	356.2	262.4	175.4
53°	243.7	169.5	226.4	326.2	236.9	157.2
53.5°	219.6	154.4	203.6	298.4	213.6	142.1
54°	196.8	138.9	183.1	270.1	192.2	127.1
54.5°	176.7	123.5	164.4	245.5	172.6	112.1
55°	158.1	108.4	149.0	222.3	156.7	97.0
55.5°	141.2	92.9	133.9	200.0	141.2	87.0
56°	124.4	85.6	118.4	179.5	125.7	83.4
56.5°	109.3	82.0	103.4	160.3	110.2	80.2
57°	96.1	78.8	87.9	147.1	94.8	77.4
57.5°	84.7	75.6	79.3	134.4	83.4	74.3
58°	76.1	72.9	76.1	121.2	76.1	71.5
58.5°	72.9	70.2	73.3	108.0	72.9	68.8
59°	69.7	67.4	70.6	95.2	70.2	66.1
59.5°	67.4	65.1	67.9	86.6	67.4	63.8
60°	64.7	62.4	65.1	79.3	65.1	61.5
60.5°	62.4	60.1	62.9	72.9	62.4	58.8
61°	60.1	57.9	60.6	67.4	60.1	56.5
61.5°	57.9	55.6	58.3	62.4	57.9	54.7
62°	55.6	53.8	56.0	58.3	55.6	52.4
62.5°	53.3	51.5	53.8	54.7	53.8	50.1
63°	51.5	49.7	51.9	51.5	51.5	48.3
63.5°	49.7	47.8	49.7	49.2	49.2	46.5
64°	47.4	46.0	47.8	47.4	47.4	44.6
64.5°	46.0	44.2	46.0	45.6	45.6	42.8
65°	44.2	42.4	44.2	43.7	43.7	41.0
65.5°	42.4	40.5	42.8	41.9	41.9	39.6
66°	40.5	39.2	41.0	40.5	40.5	37.8



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	36.4	34.6	36.4	36.0	35.5	33.3
68°	34.6	33.3	34.6	34.2	34.2	31.9
68.5°	33.3	31.9	33.3	32.8	32.8	30.5
69°	31.9	30.5	31.9	31.4	31.4	29.2
69.5°	30.5	29.2	30.5	30.1	30.1	27.8
70°	29.2	27.8	29.6	28.7	28.7	26.4
70.5°	28.2	26.9	28.2	27.8	27.3	25.1
71°	26.9	25.5	26.9	26.4	26.0	24.1
71.5°	25.5	24.6	25.5	25.1	24.6	22.8
72°	24.6	23.2	24.6	24.1	23.7	21.9
72.5°	23.7	22.3	23.2	22.8	22.3	20.5
73°	22.3	21.0	22.3	21.9	21.0	19.6
73.5°	21.4	20.0	21.4	21.0	20.0	18.2
74°	20.5	19.1	20.0	19.6	19.1	17.3
74.5°	19.6	18.2	19.1	18.7	17.8	16.4
75°	18.2	17.3	18.2	17.8	16.9	15.5
75.5°	17.3	16.4	17.3	16.9	15.9	14.6
76°	16.4	15.5	16.4	15.9	15.0	13.2
76.5°	15.5	14.6	15.5	15.0	14.1	12.3
77°	14.6	13.7	14.6	13.7	13.2	11.8
77.5°	13.7	12.8	13.7	13.2	11.8	10.9
78°	12.8	11.8	12.8	12.3	10.9	10.0
78.5°	12.3	11.4	11.8	11.4	10.5	9.1
79°	11.4	10.5	10.9	10.5	9.6	8.7
79.5°	10.5	9.6	10.5	9.6	8.7	7.7
80°	9.6	9.1	9.6	9.1	7.7	6.8
80.5°	9.1	8.7	9.1	8.2	6.8	6.4
81°	8.2	7.7	8.2	7.7	6.4	5.5
81.5°	7.7	7.3	7.3	6.8	5.5	5.0
82°	6.8	6.4	6.8	6.4	4.6	4.6
82.5°	6.4	5.9	6.4	5.5	4.1	3.6
83°	5.9	5.5	5.5	5.0	3.6	3.2
83.5°	5.0	5.0	5.0	4.6	3.2	2.3
84°	4.6	4.6	4.6	4.1	2.3	1.8
84.5°	4.1	4.1	3.6	3.6	1.8	1.8
85°	3.6	3.2	3.2	2.7	1.8	1.4
85.5°	2.7	2.7	2.7	2.3	1.4	0.9
86°	2.3	2.3	2.3	1.8	0.9	0.9
86.5°	1.8	1.8	1.8	1.4	0.9	0.9
87°	1.4	1.4	1.4	0.9	0.5	0.5
87.5°	0.9	0.9	0.9	0.5	0.5	0.0
88°	0.5	0.5	0.5	0.5	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776625

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-2700K

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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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2984.7	2974.2	2995.6	2976.0	2952.8	2954.6	2974.6	2974.2	2980.6	3007.0	3000.6
22°	2957.3	2946.9	2968.7	2947.3	2924.5	2926.4	2946.9	2945.5	2952.3	2978.7	2974.6



44°	741.6	852.3	1073.7	890.6	720.7	852.8	1058.7	922.5	779.4	913.3	1067.8
44.5°	695.1	805.4	1019.5	841.4	676.0	806.8	1007.2	874.2	733.9	864.6	1012.7



66.5°	36.4	38.3	41.5	46.5	45.6	46.5	43.3	45.6	46.5	47.4	40.5
67°	34.6	36.4	39.6	44.2	43.7	44.6	41.5	43.7	44.2	45.6	39.2



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	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

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21.5°	3000.2	3007.4	3013.8	3014.3	3002.0	2984.7
22°	2973.3	2980.6	2986.5	2987.4	2974.6	2957.3



44°	920.2	790.4	904.7	1104.2	911.1	741.6
44.5°	873.7	741.2	856.4	1049.6	863.2	695.1



66.5°	39.2	37.4	39.2	38.7	38.7	36.4
67°	37.8	36.0	37.8	37.4	36.9	34.6



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)