

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: P776627

Luminaire Tested: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776627
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: HCDJBS4050CSD-HCD4TSQH-5000lm-3500K
Description: 4 INCH SQUARE MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

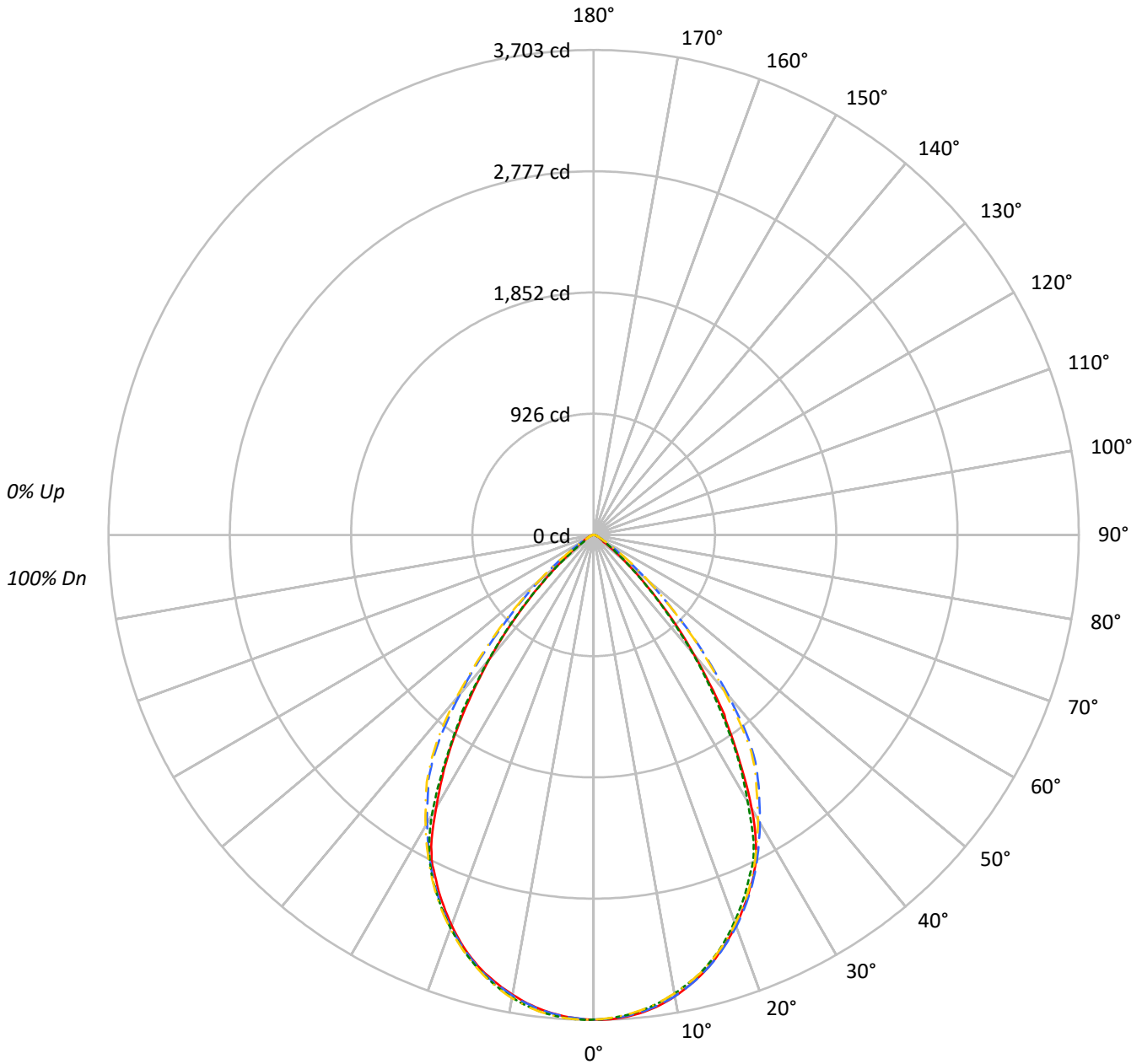
Lumens per Lamp: N/A
Luminaire Lumens: 4737.4 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.09
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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°	365766	365766	365766	365766
5°	364781	363184	363660	365109
10°	358963	356785	357778	360006
15°	348799	346916	348758	350344
20°	333733	330609	333533	336121
25°	314661	309415	312698	317333
30°	275632	268475	274502	281715
35°	216290	211681	220501	223458
40°	153880	150603	159790	161364
45°	94075	91698	99736	100337
50°	46193	47638	51421	49745
55°	17302	23884	25194	19335
60°	12592	15933	16131	12770
65°	9917	12583	12793	10267
70°	7918	10086	10230	8323
75°	6110	7905	7905	6836
80°	4041	6147	5920	5351
85°	1588	4763	2722	3742

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 315°
 Vertical Angle: 45°
 Luminance: 144299 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	347.2	7.3
10°-20°	957.0	20.2
20°-30°	1317.0	27.8
30°-40°	1210.0	25.5
40°-50°	654.4	13.8
50°-60°	176.3	3.7
60°-70°	50.3	1.1
70°-80°	21.1	0.4
80°-90°	4.1	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°	2621.2	55.3
0°-40°	3831.2	80.9
0°-60°	4661.9	98.4
0°-90°	4737.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4737.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3700	3700	3700	3700	3700	
5°	3676	3660	3665	3680	3676	348
15°	3409	3390	3408	3424	3409	957
25°	2885	2837	2867	2910	2885	1310
35°	1792	1754	1827	1852	1792	1114
45°	673	656	714	718	673	531
55°	100	139	146	112	100	117
65°	42	54	55	44	42	43
75°	16	21	21	18	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°	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5
0.5°	3702.4	3701.0	3699.6	3698.2	3700.5	3698.2	3699.1	3699.6	3701.0	3701.0	3699.1
1°	3702.4	3700.1	3698.2	3697.2	3698.6	3696.3	3696.8	3697.2	3699.1	3700.1	3698.2
1.5°	3701.0	3698.2	3697.7	3694.9	3695.3	3692.5	3693.9	3694.4	3697.2	3697.7	3695.8
2°	3700.1	3696.8	3694.9	3692.5	3691.6	3689.7	3690.2	3691.1	3693.5	3695.3	3693.5
2.5°	3697.7	3694.4	3692.5	3689.2	3687.8	3685.4	3686.4	3686.9	3690.6	3692.0	3690.6
3°	3694.9	3690.2	3689.2	3685.9	3684.0	3680.7	3681.7	3682.6	3686.9	3689.2	3686.9
3.5°	3691.1	3686.4	3685.0	3681.7	3679.3	3675.5	3676.0	3677.4	3682.1	3685.0	3683.1
4°	3686.9	3681.7	3681.7	3677.0	3673.7	3670.4	3670.4	3672.2	3676.5	3680.7	3678.4
4.5°	3682.1	3676.0	3675.5	3671.8	3667.1	3663.3	3664.2	3666.1	3671.3	3676.0	3672.7
5°	3676.5	3669.9	3669.9	3665.2	3660.4	3656.7	3657.1	3659.5	3665.2	3669.4	3666.6
5.5°	3669.4	3663.3	3663.8	3658.6	3652.9	3648.7	3649.6	3652.0	3658.1	3663.8	3660.0
6°	3662.8	3655.3	3656.2	3651.0	3644.9	3640.2	3641.6	3644.4	3650.1	3656.2	3652.4
6.5°	3654.8	3647.2	3648.7	3643.5	3635.9	3631.2	3632.6	3635.5	3642.1	3649.1	3644.9
7°	3645.8	3637.8	3639.7	3634.0	3626.5	3621.3	3623.7	3627.0	3633.1	3640.6	3636.4
7.5°	3636.4	3628.4	3630.7	3625.6	3616.1	3611.4	3613.3	3617.1	3623.2	3631.7	3627.0
8°	3626.5	3618.0	3621.8	3614.2	3605.3	3599.6	3602.4	3605.7	3613.3	3621.8	3617.1
8.5°	3615.2	3607.2	3610.9	3602.9	3593.0	3588.8	3591.6	3594.9	3602.0	3610.9	3606.7
9°	3603.4	3595.8	3599.6	3591.6	3581.2	3576.0	3579.3	3583.1	3590.2	3599.6	3595.8
9.5°	3590.7	3582.2	3588.3	3579.8	3568.0	3563.3	3566.6	3570.4	3577.4	3588.3	3583.6
10°	3576.5	3569.0	3575.1	3566.1	3554.8	3550.1	3553.9	3557.6	3564.7	3576.0	3571.3
10.5°	3562.8	3554.3	3561.9	3552.5	3541.1	3536.4	3540.7	3544.0	3551.0	3563.3	3557.6
11°	3548.2	3539.7	3549.2	3538.3	3527.0	3522.3	3526.5	3529.8	3537.4	3549.6	3544.0
11.5°	3533.1	3524.6	3533.1	3523.7	3511.4	3506.7	3511.0	3516.6	3523.7	3535.5	3529.3
12°	3516.6	3508.1	3518.0	3507.7	3495.9	3491.6	3495.9	3501.1	3508.1	3521.8	3519.4
12.5°	3500.6	3491.1	3501.1	3491.6	3480.3	3476.1	3480.3	3486.0	3492.6	3505.8	3503.4
13°	3483.6	3474.2	3485.0	3474.6	3465.2	3460.5	3464.7	3470.4	3477.0	3490.2	3487.4
13.5°	3466.2	3455.8	3467.6	3457.2	3449.2	3444.9	3449.2	3455.3	3461.4	3474.6	3471.3
14°	3447.8	3437.9	3448.7	3439.3	3430.3	3425.6	3431.3	3436.4	3445.9	3459.1	3455.8
14.5°	3428.0	3417.6	3429.4	3420.9	3410.5	3406.3	3411.9	3417.1	3427.5	3443.5	3433.6
15°	3408.6	3397.8	3410.5	3402.0	3390.2	3386.9	3391.6	3398.2	3408.2	3424.7	3414.3
15.5°	3387.9	3377.5	3390.7	3381.3	3369.5	3365.7	3370.9	3377.5	3387.9	3405.3	3394.0
16°	3367.1	3356.3	3369.0	3360.0	3348.3	3345.0	3349.7	3357.2	3367.1	3385.0	3373.7
16.5°	3344.5	3335.5	3347.3	3338.8	3325.6	3322.3	3328.5	3335.5	3346.4	3363.8	3352.5
17°	3322.3	3311.9	3326.1	3317.1	3302.5	3300.2	3306.3	3313.8	3324.7	3342.6	3330.3
17.5°	3299.2	3289.3	3303.0	3294.0	3278.5	3277.0	3283.2	3290.3	3300.6	3320.9	3307.7
18°	3275.2	3265.3	3280.4	3270.0	3252.1	3252.5	3260.1	3267.1	3275.6	3298.3	3285.1
18.5°	3249.2	3240.3	3255.8	3246.4	3225.6	3227.1	3235.6	3242.6	3250.6	3274.2	3261.5
19°	3224.7	3214.8	3232.2	3221.4	3198.3	3200.7	3211.0	3217.2	3224.7	3249.2	3237.0
19.5°	3198.8	3189.3	3207.3	3194.5	3171.4	3173.8	3186.0	3191.2	3198.3	3223.3	3212.0
20°	3172.8	3162.9	3182.3	3167.2	3143.1	3145.5	3160.6	3164.3	3170.9	3196.9	3187.0
20.5°	3145.5	3136.0	3156.3	3139.3	3114.8	3117.2	3133.7	3136.5	3143.1	3170.0	3160.1
21°	3117.7	3107.8	3128.5	3110.6	3085.6	3088.4	3106.8	3108.2	3114.8	3141.7	3133.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3032.8	3021.5	3045.0	3021.0	2996.9	2999.3	3022.4	3019.6	3026.6	3054.5	3050.7
23°	3001.2	2991.7	3015.8	2989.4	2965.3	2968.2	2993.6	2988.0	2996.9	3024.3	3021.5
23.5°	2971.9	2962.0	2985.1	2959.7	2932.3	2938.0	2963.0	2957.3	2965.3	2993.6	2990.8
24°	2941.8	2930.4	2955.4	2927.6	2898.4	2905.9	2931.8	2926.2	2933.3	2963.0	2959.7
24.5°	2914.4	2899.3	2923.8	2896.5	2866.8	2872.9	2898.8	2894.6	2899.8	2931.4	2927.6
25°	2885.2	2866.3	2891.3	2862.1	2837.1	2838.9	2866.3	2862.1	2867.2	2898.8	2895.5
25.5°	2847.0	2835.6	2857.8	2828.1	2807.4	2804.5	2832.3	2828.6	2836.6	2864.9	2862.5
26°	2812.5	2805.9	2822.9	2792.7	2777.6	2771.0	2798.4	2794.6	2807.8	2830.9	2829.5
26.5°	2775.3	2776.7	2789.4	2759.2	2734.3	2739.4	2763.0	2759.7	2772.5	2796.5	2794.6
27°	2731.0	2738.0	2754.5	2726.7	2688.5	2709.3	2727.7	2726.2	2726.2	2764.9	2759.7
27.5°	2684.7	2700.8	2719.2	2696.5	2645.6	2678.1	2691.8	2693.7	2685.7	2735.2	2724.4
28°	2636.2	2661.2	2682.4	2665.9	2586.6	2642.3	2655.5	2663.0	2635.7	2702.7	2688.5
28.5°	2585.2	2619.7	2647.0	2631.9	2526.8	2593.7	2619.2	2627.7	2578.6	2656.4	2653.1
29°	2532.4	2574.4	2609.8	2585.2	2469.2	2553.6	2582.9	2582.4	2521.1	2614.5	2616.4
29.5°	2474.4	2527.2	2574.4	2541.8	2410.3	2504.1	2544.7	2540.9	2462.1	2572.0	2580.5
30°	2415.0	2475.8	2538.1	2495.6	2352.3	2445.6	2507.9	2494.2	2405.1	2517.3	2543.7
30.5°	2352.3	2426.3	2500.8	2439.0	2295.7	2387.2	2469.7	2438.1	2346.6	2458.8	2507.0
31°	2289.1	2369.2	2463.1	2380.1	2239.6	2330.6	2431.0	2382.9	2291.4	2402.3	2469.2
31.5°	2224.9	2313.6	2425.4	2322.6	2183.0	2272.6	2391.9	2324.9	2236.3	2344.3	2430.6
32°	2159.4	2251.8	2387.2	2265.5	2127.8	2216.5	2354.2	2268.3	2180.6	2288.1	2393.3
32.5°	2096.2	2192.9	2351.8	2208.0	2069.3	2161.7	2315.5	2211.7	2124.0	2232.0	2355.1
33°	2034.4	2130.2	2317.4	2152.3	2010.4	2108.0	2279.2	2158.0	2067.9	2176.8	2319.3
33.5°	1973.1	2066.5	2280.6	2097.1	1946.7	2052.8	2243.8	2102.3	2010.8	2121.2	2287.7
34°	1913.2	2005.2	2238.6	2042.4	1884.5	1998.1	2209.4	2049.5	1951.4	2066.5	2255.1
34.5°	1852.9	1943.4	2202.3	1986.8	1818.4	1941.0	2173.1	1994.8	1889.2	2011.3	2207.5
35°	1792.5	1881.6	2165.1	1930.7	1754.3	1886.8	2133.0	1942.5	1827.4	1955.7	2159.4
35.5°	1733.5	1823.2	2125.0	1873.1	1689.7	1826.5	2088.7	1886.8	1765.6	1898.1	2117.9
36°	1697.2	1765.1	2077.8	1815.1	1628.9	1766.6	2043.9	1832.6	1703.4	1840.6	2066.5
36.5°	1631.2	1708.6	2023.6	1755.2	1567.1	1705.7	1986.8	1775.0	1641.6	1781.7	2009.4
37°	1563.8	1651.5	1972.6	1694.4	1508.1	1644.9	1929.7	1717.5	1578.9	1721.3	1951.0
37.5°	1496.3	1594.0	1917.9	1635.5	1450.1	1582.6	1868.4	1659.5	1519.9	1660.0	1892.0
38°	1428.9	1536.9	1854.3	1576.5	1393.5	1523.2	1801.9	1601.0	1462.4	1601.0	1832.1
38.5°	1368.5	1479.8	1788.3	1518.0	1336.5	1465.7	1735.9	1541.6	1405.3	1540.2	1772.2
39°	1308.7	1422.3	1724.1	1459.1	1281.8	1409.6	1669.9	1483.6	1348.3	1482.7	1710.9
39.5°	1250.2	1363.8	1660.5	1400.1	1224.2	1356.8	1606.7	1426.5	1292.6	1425.6	1650.1
40°	1192.6	1306.3	1596.8	1344.0	1167.2	1301.1	1544.4	1371.8	1238.4	1369.5	1588.8
40.5°	1137.5	1247.8	1533.1	1289.8	1109.6	1247.8	1484.6	1315.7	1181.8	1313.8	1528.4
41°	1082.3	1192.2	1469.0	1236.5	1054.5	1195.9	1426.1	1262.9	1125.7	1260.1	1466.2
41.5°	1027.6	1137.5	1405.3	1183.7	997.9	1144.5	1368.5	1211.0	1068.6	1207.7	1405.8
42°	974.8	1084.6	1344.5	1129.9	944.6	1090.3	1312.4	1159.2	1013.9	1154.4	1344.0
42.5°	922.0	1031.8	1285.1	1078.0	892.7	1037.0	1258.2	1108.2	960.6	1102.1	1283.7
43°	870.5	980.9	1226.1	1025.7	842.3	985.1	1204.4	1056.4	908.7	1048.8	1222.4
43.5°	817.7	931.4	1168.6	973.8	792.7	934.7	1150.7	1005.4	857.8	996.5	1163.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	673.0	786.1	999.8	823.4	656.0	787.1	990.3	856.4	713.5	845.6	993.2
45.5°	627.7	738.5	944.6	776.7	612.1	742.7	938.9	807.8	668.2	797.9	940.3
46°	584.3	693.2	891.8	730.5	569.2	697.9	887.5	762.1	624.4	751.7	887.5
46.5°	541.9	648.9	840.4	687.1	529.1	655.0	838.5	716.8	581.9	707.4	837.1
47°	501.8	606.5	789.9	644.7	490.9	613.1	791.3	673.4	540.0	663.5	789.0
47.5°	464.5	565.0	741.3	602.7	455.1	572.5	745.6	630.0	500.8	620.1	741.8
48°	428.2	525.3	695.1	561.7	424.9	532.9	703.1	589.0	463.6	580.1	696.1
48.5°	394.2	488.1	650.8	522.5	394.7	495.2	660.7	549.9	431.0	540.0	651.7
49°	361.7	452.3	608.3	486.2	364.5	459.3	620.6	510.7	399.0	501.8	611.2
49.5°	330.1	417.8	568.3	450.4	334.8	428.2	582.4	473.9	366.4	465.0	568.3
50°	300.4	384.8	529.1	415.5	309.8	397.1	545.6	442.3	334.4	432.4	528.6
50.5°	273.0	352.7	490.4	382.0	286.7	366.0	510.7	410.8	308.4	399.4	491.9
51°	247.6	323.0	454.6	351.8	266.9	334.8	475.4	378.7	284.4	366.4	457.4
51.5°	224.0	295.2	420.2	323.5	248.1	309.4	444.7	347.1	262.7	333.9	425.4
52°	201.8	268.8	388.1	297.1	230.1	285.8	415.0	315.5	242.4	306.1	393.8
52.5°	181.6	243.3	356.5	273.5	213.2	264.1	384.8	289.1	224.5	281.1	362.2
53°	162.7	219.8	327.8	251.8	197.1	244.3	354.6	265.0	207.0	258.4	330.6
53.5°	147.1	198.5	300.4	232.5	182.5	226.4	324.5	243.3	191.0	237.7	301.8
54°	131.6	178.7	274.9	214.1	167.4	209.9	299.0	223.5	175.4	218.8	276.3
54.5°	116.0	159.9	250.4	197.1	152.8	193.8	274.9	205.1	160.3	200.9	252.8
55°	100.4	142.4	229.2	182.0	138.6	178.7	252.3	188.6	146.2	184.9	230.1
55.5°	90.1	129.7	208.4	166.9	125.9	164.6	231.1	173.1	132.0	169.8	209.4
56°	86.3	117.4	189.6	154.7	114.6	150.4	211.3	158.0	119.8	155.2	190.0
56.5°	83.0	104.7	172.1	141.9	106.6	136.8	192.9	144.3	109.9	141.5	172.6
57°	80.2	92.4	159.4	129.2	101.9	123.6	175.9	131.1	102.8	127.8	156.1
57.5°	76.9	79.7	146.2	116.5	98.1	111.8	160.3	118.4	99.0	115.1	141.5
58°	74.0	76.9	133.5	105.6	94.3	100.9	145.7	106.1	95.3	104.2	128.3
58.5°	71.2	74.0	120.7	96.2	91.0	92.9	133.0	96.2	91.5	95.7	116.0
59°	68.4	71.2	108.0	89.1	87.2	88.7	120.7	88.7	88.2	90.1	105.6
59.5°	66.0	68.4	98.6	85.4	83.9	84.9	110.4	84.4	84.9	86.8	96.7
60°	63.7	66.0	90.5	81.6	80.6	81.6	100.9	81.1	81.6	83.5	88.7
60.5°	60.8	63.7	83.0	78.8	77.3	78.8	92.4	77.8	78.3	80.2	81.1
61°	58.5	60.8	76.9	75.5	74.5	75.5	84.9	74.5	75.5	76.9	75.5
61.5°	56.6	58.9	71.2	72.6	71.7	72.6	78.3	71.7	72.6	74.0	69.8
62°	54.2	56.6	66.5	69.3	68.9	69.8	72.6	68.9	69.3	71.2	65.1
62.5°	51.9	54.2	61.8	67.0	66.0	67.0	67.9	66.0	67.0	68.4	60.8
63°	50.0	52.3	58.0	64.1	63.2	64.1	63.2	63.7	64.1	65.6	57.5
63.5°	48.1	50.0	54.7	61.3	60.8	61.8	59.4	60.8	61.8	63.2	54.2
64°	46.2	48.1	52.3	58.9	58.5	59.4	55.6	58.5	58.9	60.4	51.9
64.5°	44.3	46.2	50.5	56.6	56.1	57.1	52.8	56.1	56.6	58.0	49.5
65°	42.4	44.8	48.1	54.2	53.8	54.7	50.5	53.8	54.7	55.6	47.6
65.5°	41.0	42.9	46.2	52.3	51.4	52.3	48.6	51.4	52.3	53.3	45.7
66°	39.1	41.0	44.8	50.0	49.0	50.5	46.7	49.5	50.0	51.4	43.9



TEST NUMBER: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	34.4	36.3	39.6	43.9	43.4	44.3	41.5	43.4	43.9	45.3	38.7
68°	33.0	34.9	37.7	42.0	41.5	42.4	39.6	41.5	42.0	43.4	37.3
68.5°	31.6	33.0	36.3	40.6	39.6	40.6	38.2	39.6	40.1	41.5	35.8
69°	30.2	31.6	34.9	38.7	38.2	39.1	36.3	38.2	38.7	39.6	34.4
69.5°	28.8	30.2	33.5	37.3	36.3	37.3	34.9	36.3	36.8	37.7	33.0
70°	27.4	28.8	32.1	35.4	34.9	35.8	33.5	34.9	35.4	36.3	31.1
70.5°	25.9	27.8	30.7	34.0	33.0	34.4	31.6	33.0	33.5	34.4	30.2
71°	25.0	26.4	29.2	32.5	31.6	32.5	30.2	31.6	32.1	33.0	28.8
71.5°	23.6	25.0	27.8	30.7	30.2	31.1	28.8	30.2	30.2	31.1	27.4
72°	22.6	24.1	26.4	29.7	28.8	29.7	27.8	28.8	28.8	29.7	25.9
72.5°	21.2	22.6	25.5	28.3	27.4	28.3	26.4	27.4	27.4	28.3	25.0
73°	20.3	21.7	24.1	26.9	25.9	26.9	25.0	25.9	25.9	26.9	23.6
73.5°	18.9	20.3	22.6	25.5	24.5	25.5	24.1	24.5	24.5	25.5	22.6
74°	17.9	19.3	21.7	24.1	23.6	24.5	22.6	23.1	23.6	24.5	21.7
74.5°	17.0	18.4	20.7	23.1	22.2	23.1	21.7	22.2	22.2	23.1	20.3
75°	16.0	17.0	19.3	21.7	20.7	22.2	20.3	20.7	20.7	21.7	19.3
75.5°	15.1	16.0	18.4	20.7	19.8	20.7	19.3	19.8	19.8	20.7	18.4
76°	13.7	15.1	17.4	19.8	18.9	19.8	18.4	18.4	18.4	19.3	17.4
76.5°	12.7	14.1	16.5	18.4	17.4	18.9	17.4	17.4	17.4	18.4	16.0
77°	12.3	13.2	15.6	17.4	16.5	17.4	16.5	16.0	16.0	17.0	15.1
77.5°	11.3	12.3	14.6	16.5	15.6	16.5	15.6	15.1	15.1	16.0	14.1
78°	10.4	11.3	13.7	15.6	14.6	15.6	14.6	14.1	14.1	15.1	13.2
78.5°	9.4	10.4	12.7	14.6	13.7	14.6	13.7	13.2	13.2	13.7	12.7
79°	9.0	9.4	11.8	13.7	12.7	13.7	12.7	12.3	12.3	12.7	11.8
79.5°	8.0	8.5	11.3	12.7	11.8	12.7	11.8	11.3	11.3	11.8	10.8
80°	7.1	8.0	10.4	11.8	10.8	11.8	11.3	10.4	10.4	10.8	9.9
80.5°	6.6	7.1	9.4	10.8	10.4	10.8	10.4	9.4	9.4	9.9	9.4
81°	5.7	6.1	9.0	9.9	9.4	9.9	9.4	8.5	8.5	9.0	8.5
81.5°	5.2	5.7	8.0	9.0	8.5	9.4	9.0	7.5	7.5	8.0	8.0
82°	4.7	4.7	7.5	8.5	8.0	8.5	8.0	7.1	7.1	7.1	7.1
82.5°	3.8	4.2	6.6	7.5	7.1	8.0	7.5	6.1	6.1	6.1	6.6
83°	3.3	3.8	6.1	7.1	6.6	7.1	6.6	5.7	5.2	5.7	5.7
83.5°	2.4	2.8	5.2	6.1	6.1	6.6	6.1	4.7	4.7	4.7	5.2
84°	1.9	2.4	4.7	5.7	5.2	5.7	5.7	4.2	3.8	4.2	4.7
84.5°	1.9	1.9	4.2	4.7	4.7	5.2	4.7	3.8	3.3	3.3	4.2
85°	1.4	1.9	3.8	4.2	4.2	4.7	4.2	2.8	2.4	2.8	3.8
85.5°	0.9	1.4	3.3	3.8	3.3	3.8	3.8	2.4	1.9	2.4	2.8
86°	0.9	0.9	2.4	2.8	2.8	3.3	3.3	1.9	1.9	1.9	2.4
86.5°	0.9	0.9	1.9	2.4	2.4	2.8	2.8	1.9	1.4	1.4	1.9
87°	0.5	0.5	1.4	1.9	1.9	1.9	2.4	1.4	1.4	1.4	1.4
87.5°	0.0	0.5	0.9	1.4	1.4	1.4	1.9	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: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3700.5	3700.5	3700.5	3700.5	3700.5	3700.5
0.5°	3699.6	3702.9	3701.0	3701.9	3701.0	3702.4
1°	3699.1	3702.4	3701.0	3701.9	3701.0	3702.4
1.5°	3697.7	3702.4	3701.0	3701.5	3701.0	3701.0
2°	3695.8	3701.0	3700.5	3700.5	3700.1	3700.1
2.5°	3693.5	3700.1	3698.6	3700.1	3698.2	3697.7
3°	3690.2	3697.7	3696.3	3697.2	3695.8	3694.9
3.5°	3686.4	3693.9	3693.5	3694.4	3692.5	3691.1
4°	3681.7	3689.7	3689.7	3690.6	3689.2	3686.9
4.5°	3676.5	3685.0	3685.4	3686.4	3684.5	3682.1
5°	3670.8	3679.8	3680.3	3681.2	3679.3	3676.5
5.5°	3664.2	3674.1	3674.6	3675.1	3673.2	3669.4
6°	3657.1	3667.1	3668.0	3668.9	3666.6	3662.8
6.5°	3649.1	3659.5	3660.9	3661.4	3659.0	3654.8
7°	3640.6	3651.5	3652.9	3653.8	3651.0	3645.8
7.5°	3631.2	3643.0	3644.9	3644.9	3642.1	3636.4
8°	3620.8	3632.6	3635.0	3635.9	3632.2	3626.5
8.5°	3610.5	3622.7	3625.1	3625.6	3621.8	3615.2
9°	3599.6	3610.9	3614.7	3615.2	3610.0	3603.4
9.5°	3587.4	3598.7	3602.4	3603.4	3599.1	3590.7
10°	3574.6	3586.9	3589.7	3591.6	3585.9	3576.5
10.5°	3560.9	3573.7	3577.0	3578.4	3572.7	3562.8
11°	3547.7	3559.1	3562.8	3564.2	3558.6	3548.2
11.5°	3533.1	3544.9	3548.2	3550.1	3544.0	3533.1
12°	3518.0	3528.9	3533.1	3535.0	3527.5	3516.6
12.5°	3501.1	3513.3	3517.1	3518.5	3511.9	3500.6
13°	3484.5	3496.8	3501.1	3502.9	3495.4	3483.6
13.5°	3468.0	3479.8	3484.1	3485.0	3477.5	3466.2
14°	3451.1	3462.4	3466.6	3466.2	3459.6	3447.8
14.5°	3437.9	3443.5	3448.2	3446.8	3440.7	3428.0
15°	3418.5	3423.7	3429.4	3427.5	3421.4	3408.6
15.5°	3398.2	3404.4	3408.2	3407.7	3401.1	3387.9
16°	3377.5	3383.6	3388.3	3387.9	3380.3	3367.1
16.5°	3356.3	3362.4	3367.6	3366.2	3359.6	3344.5
17°	3334.1	3339.8	3345.9	3344.0	3337.9	3322.3
17.5°	3311.5	3317.6	3323.3	3321.9	3314.8	3299.2
18°	3287.9	3293.6	3300.2	3298.7	3291.7	3275.2
18.5°	3263.8	3270.0	3276.6	3274.2	3266.7	3249.2
19°	3239.8	3245.5	3252.1	3250.6	3241.7	3224.7
19.5°	3213.9	3220.9	3226.6	3225.6	3216.7	3198.8
20°	3187.9	3195.5	3201.6	3200.7	3190.7	3172.8
20.5°	3161.5	3168.6	3175.2	3174.2	3163.9	3145.5
21°	3134.2	3141.7	3147.4	3147.8	3135.6	3117.7

TEST NUMBER: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3049.3	3056.8	3062.9	3064.4	3050.2	3032.8
23°	3020.5	3027.6	3033.2	3035.1	3020.5	3001.2
23.5°	2990.3	2997.4	3003.5	3004.9	2990.3	2971.9
24°	2958.7	2966.3	2972.9	2974.3	2960.1	2941.8
24.5°	2928.1	2936.6	2941.8	2942.7	2929.0	2914.4
25°	2897.0	2909.7	2909.2	2911.1	2897.0	2885.2
25.5°	2863.9	2872.9	2876.7	2878.6	2863.9	2847.0
26°	2830.5	2837.5	2846.0	2844.6	2832.8	2812.5
26.5°	2801.7	2801.7	2817.3	2811.6	2803.6	2775.3
27°	2769.6	2759.7	2778.6	2778.1	2773.9	2731.0
27.5°	2729.5	2718.2	2742.7	2743.2	2735.7	2684.7
28°	2694.2	2673.4	2705.5	2707.4	2697.5	2636.2
28.5°	2655.0	2626.3	2664.5	2672.9	2660.2	2585.2
29°	2614.5	2575.3	2623.0	2638.1	2618.2	2532.4
29.5°	2570.1	2523.9	2577.7	2602.2	2574.4	2474.4
30°	2525.3	2468.3	2531.0	2566.4	2527.7	2415.0
30.5°	2477.2	2409.3	2482.9	2530.1	2477.2	2352.3
31°	2427.7	2346.6	2430.1	2493.3	2425.8	2289.1
31.5°	2375.4	2287.2	2375.8	2456.0	2371.1	2224.9
32°	2322.1	2223.1	2320.2	2419.2	2315.5	2159.4
32.5°	2264.6	2158.0	2261.3	2386.2	2257.0	2096.2
33°	2205.1	2096.2	2199.5	2349.9	2195.7	2034.4
33.5°	2144.3	2033.9	2137.7	2311.2	2133.9	1973.1
34°	2083.9	1973.1	2075.9	2276.8	2072.1	1913.2
34.5°	2021.2	1910.9	2015.1	2236.3	2010.4	1852.9
35°	1960.9	1851.9	1953.3	2190.5	1948.6	1792.5
35.5°	1901.4	1793.0	1892.5	2145.7	1889.6	1733.5
36°	1842.5	1734.5	1834.5	2100.4	1831.6	1697.2
36.5°	1783.1	1700.5	1776.9	2050.0	1773.6	1631.2
37°	1726.0	1634.0	1719.4	1997.6	1717.0	1563.8
37.5°	1669.4	1565.7	1661.9	1943.4	1660.0	1496.3
38°	1613.3	1497.3	1604.3	1886.3	1603.4	1428.9
38.5°	1556.2	1428.9	1546.8	1828.3	1546.3	1368.5
39°	1499.2	1370.0	1489.3	1767.0	1489.3	1308.7
39.5°	1442.1	1309.6	1431.7	1706.7	1432.7	1250.2
40°	1384.6	1250.6	1372.8	1642.1	1373.3	1192.6
40.5°	1327.0	1193.6	1313.8	1577.0	1315.7	1137.5
41°	1269.5	1138.9	1256.8	1512.4	1259.6	1082.3
41.5°	1213.9	1082.3	1200.2	1447.8	1204.0	1027.6
42°	1159.6	1029.0	1146.0	1383.2	1150.2	974.8
42.5°	1105.9	976.7	1091.7	1320.9	1096.4	922.0
43°	1053.5	921.5	1039.8	1260.1	1044.6	870.5
43.5°	1002.1	868.7	988.0	1200.7	992.7	817.7



TEST NUMBER: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	855.9	717.8	837.1	1032.3	845.6	673.0
45.5°	808.8	670.6	788.0	980.0	797.9	627.7
46°	762.1	624.9	740.9	928.1	751.7	584.3
46.5°	715.4	581.0	692.8	875.7	705.5	541.9
47°	671.1	539.0	648.4	825.3	662.1	501.8
47.5°	627.7	498.0	604.6	775.8	618.7	464.5
48°	585.7	458.9	562.1	729.1	577.2	428.2
48.5°	545.6	422.5	522.0	681.4	536.2	394.2
49°	506.5	387.6	483.4	636.6	498.9	361.7
49.5°	470.2	355.1	445.2	593.3	461.7	330.1
50°	436.7	323.5	410.3	550.8	424.9	300.4
50.5°	403.2	293.3	376.8	511.2	390.9	273.0
51°	369.7	266.0	343.8	473.0	358.9	247.6
51.5°	336.7	241.0	314.1	436.2	328.2	224.0
52°	306.5	217.9	286.3	401.8	299.5	201.8
52.5°	278.7	195.7	258.9	368.8	271.6	181.6
53°	252.3	175.4	234.4	337.7	245.2	162.7
53.5°	227.3	159.9	210.8	308.9	221.2	147.1
54°	203.7	143.8	189.6	279.7	199.0	131.6
54.5°	183.0	127.8	170.2	254.2	178.7	116.0
55°	163.6	112.2	154.2	230.1	162.2	100.4
55.5°	146.2	96.2	138.6	207.0	146.2	90.1
56°	128.7	88.7	122.6	185.8	130.2	86.3
56.5°	113.2	84.9	107.0	166.0	114.1	83.0
57°	99.5	81.6	91.0	152.3	98.1	80.2
57.5°	87.7	78.3	82.1	139.1	86.3	76.9
58°	78.8	75.5	78.8	125.4	78.8	74.0
58.5°	75.5	72.6	75.9	111.8	75.5	71.2
59°	72.2	69.8	73.1	98.6	72.6	68.4
59.5°	69.8	67.4	70.3	89.6	69.8	66.0
60°	67.0	64.6	67.4	82.1	67.4	63.7
60.5°	64.6	62.2	65.1	75.5	64.6	60.8
61°	62.2	59.9	62.7	69.8	62.2	58.5
61.5°	59.9	57.5	60.4	64.6	59.9	56.6
62°	57.5	55.6	58.0	60.4	57.5	54.2
62.5°	55.2	53.3	55.6	56.6	55.6	51.9
63°	53.3	51.4	53.8	53.3	53.3	50.0
63.5°	51.4	49.5	51.4	50.9	50.9	48.1
64°	49.0	47.6	49.5	49.0	49.0	46.2
64.5°	47.6	45.7	47.6	47.2	47.2	44.3
65°	45.7	43.9	45.7	45.3	45.3	42.4
65.5°	43.9	42.0	44.3	43.4	43.4	41.0
66°	42.0	40.6	42.4	42.0	42.0	39.1



TEST NUMBER: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	37.7	35.8	37.7	37.3	36.8	34.4
68°	35.8	34.4	35.8	35.4	35.4	33.0
68.5°	34.4	33.0	34.4	34.0	34.0	31.6
69°	33.0	31.6	33.0	32.5	32.5	30.2
69.5°	31.6	30.2	31.6	31.1	31.1	28.8
70°	30.2	28.8	30.7	29.7	29.7	27.4
70.5°	29.2	27.8	29.2	28.8	28.3	25.9
71°	27.8	26.4	27.8	27.4	26.9	25.0
71.5°	26.4	25.5	26.4	25.9	25.5	23.6
72°	25.5	24.1	25.5	25.0	24.5	22.6
72.5°	24.5	23.1	24.1	23.6	23.1	21.2
73°	23.1	21.7	23.1	22.6	21.7	20.3
73.5°	22.2	20.7	22.2	21.7	20.7	18.9
74°	21.2	19.8	20.7	20.3	19.8	17.9
74.5°	20.3	18.9	19.8	19.3	18.4	17.0
75°	18.9	17.9	18.9	18.4	17.4	16.0
75.5°	17.9	17.0	17.9	17.4	16.5	15.1
76°	17.0	16.0	17.0	16.5	15.6	13.7
76.5°	16.0	15.1	16.0	15.6	14.6	12.7
77°	15.1	14.1	15.1	14.1	13.7	12.3
77.5°	14.1	13.2	14.1	13.7	12.3	11.3
78°	13.2	12.3	13.2	12.7	11.3	10.4
78.5°	12.7	11.8	12.3	11.8	10.8	9.4
79°	11.8	10.8	11.3	10.8	9.9	9.0
79.5°	10.8	9.9	10.8	9.9	9.0	8.0
80°	9.9	9.4	9.9	9.4	8.0	7.1
80.5°	9.4	9.0	9.4	8.5	7.1	6.6
81°	8.5	8.0	8.5	8.0	6.6	5.7
81.5°	8.0	7.5	7.5	7.1	5.7	5.2
82°	7.1	6.6	7.1	6.6	4.7	4.7
82.5°	6.6	6.1	6.6	5.7	4.2	3.8
83°	6.1	5.7	5.7	5.2	3.8	3.3
83.5°	5.2	5.2	5.2	4.7	3.3	2.4
84°	4.7	4.7	4.7	4.2	2.4	1.9
84.5°	4.2	4.2	3.8	3.8	1.9	1.9
85°	3.8	3.3	3.3	2.8	1.9	1.4
85.5°	2.8	2.8	2.8	2.4	1.4	0.9
86°	2.4	2.4	2.4	1.9	0.9	0.9
86.5°	1.9	1.9	1.9	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: P776627

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.0	0.0



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	3089.8	3079.0	3101.1	3080.9	3056.8	3058.7	3079.5	3079.0	3085.6	3112.9	3106.3
22°	3061.5	3050.7	3073.3	3051.2	3027.6	3029.5	3050.7	3049.3	3056.3	3083.7	3079.5



44°	767.7	882.3	1111.5	922.0	746.0	882.8	1096.0	955.0	806.9	945.5	1105.4
44.5°	719.6	833.8	1055.4	871.0	699.8	835.2	1042.7	905.0	759.7	895.1	1048.3



66.5°	37.7	39.6	42.9	48.1	47.2	48.1	44.8	47.2	48.1	49.0	42.0
67°	35.8	37.7	41.0	45.7	45.3	46.2	42.9	45.3	45.7	47.2	40.6



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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Scaled Data Report





21.5°	3105.9	3113.4	3120.0	3120.5	3107.8	3089.8
22°	3078.0	3085.6	3091.7	3092.7	3079.5	3061.5



44°	952.6	818.2	936.6	1143.1	943.2	767.7
44.5°	904.5	767.3	886.6	1086.5	893.7	719.6



66.5°	40.6	38.7	40.6	40.1	40.1	37.7
67°	39.1	37.3	39.1	38.7	38.2	35.8



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)