

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: P776487

Luminaire Tested: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776487
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-HCD8TRC-4000lm-3500K
Description: 8 INCH ROUND MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

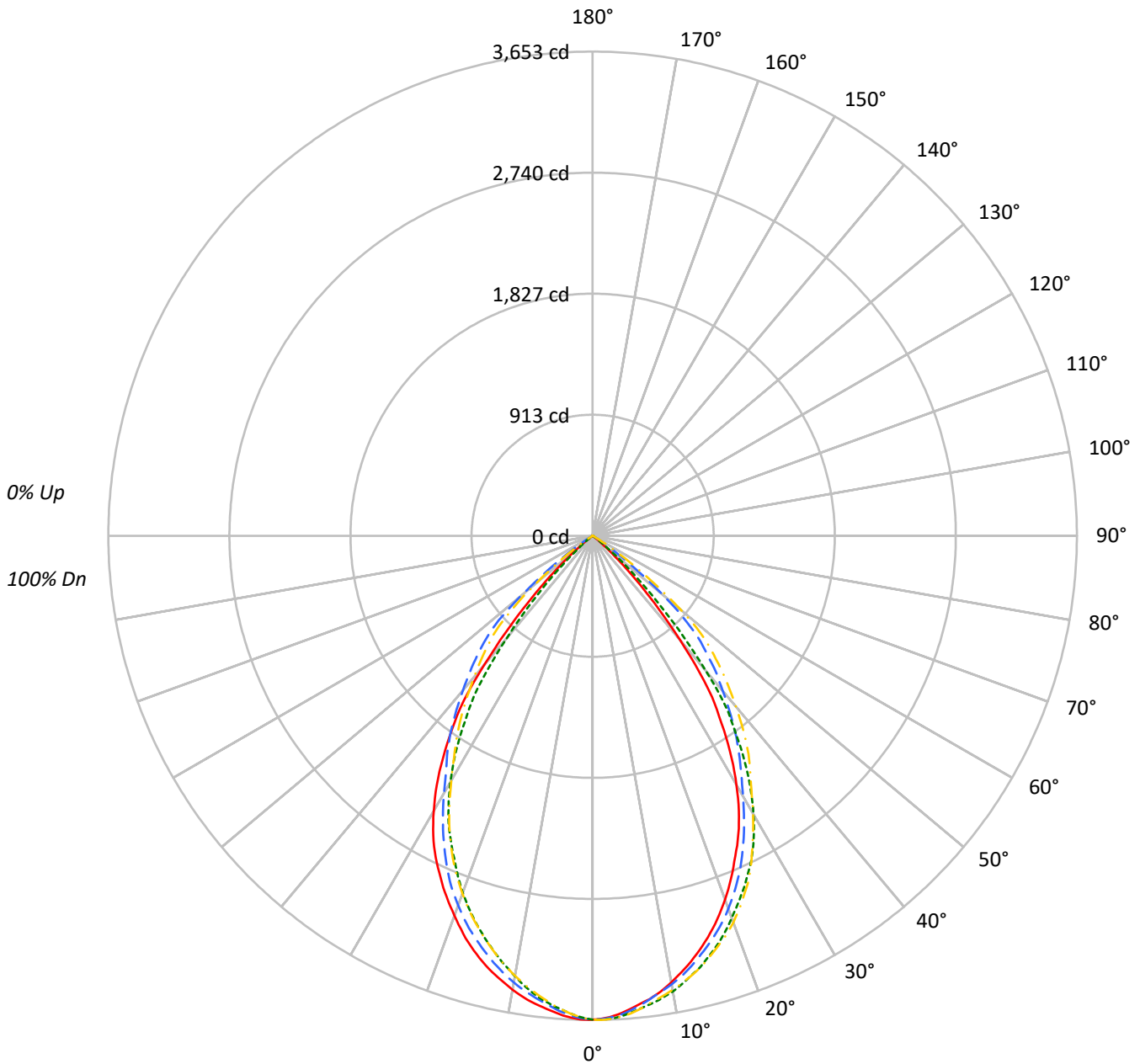
Lumens per Lamp: N/A
Luminaire Lumens: 4332.9 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1 / 1 / 1.05
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	92					92			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85					85			
3	101	94	88	84	99	92	87	83	89	85	82	87	83	80	85	82	79	78					78			
4	95	86	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	67	74	70	67	65					65			
6	84	74	68	63	83	73	67	63	72	66	62	70	66	62	69	65	61	60					60			
7	79	69	62	58	78	68	62	58	67	61	57	66	61	57	65	60	57	55					55			
8	75	64	58	53	74	64	58	53	63	57	53	62	56	53	61	56	52	51					51			
9	71	60	54	49	70	60	54	49	59	53	49	58	53	49	57	52	49	47					47			
10	67	56	50	46	66	56	50	46	55	50	46	54	49	45	54	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	111426	111426	111426	111426
5°	109412	110353	110243	108876
10°	106034	108176	107807	104626
15°	101232	104649	104222	99297
20°	94886	99691	99045	93041
25°	86877	93867	93025	85351
30°	76510	85563	84513	75671
35°	62026	72398	71198	61567
40°	40735	52795	50655	40165
45°	17888	27123	25439	17491
50°	3909	7875	7025	3776
55°	506	761	697	484
60°	415	604	556	391
65°	347	520	462	318
70°	286	428	393	250
75°	236	377	330	236
80°	211	352	281	211
85°	140	280	280	140

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 56833 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	336.9	7.8
10°-20°	906.7	20.9
20°-30°	1219.7	28.1
30°-40°	1152.4	26.6
40°-50°	618.5	14.3
50°-60°	89.5	2.1
60°-70°	5.9	0.1
70°-80°	2.7	0.1
80°-90°	0.6	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2463.3	56.9
0°-40°	3615.7	83.4
0°-60°	4323.7	99.8
0°-90°	4332.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4332.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3650	3650	3650	3650	3650	
5°	3570	3601	3597	3553	3570	336
15°	3203	3311	3297	3142	3203	897
25°	2579	2786	2762	2534	2579	1178
35°	1664	1942	1910	1652	1664	1019
45°	414	628	589	405	414	344
55°	10	14	13	9	10	16
65°	5	7	6	4	5	5
75°	2	3	3	2	2	2
85°	0	1	1	0	0	1
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°	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7
0.5°	3649.3	3649.7	3649.3	3650.0	3650.8	3651.6	3652.0	3653.2	3652.4	3650.4	3647.3
1°	3645.7	3646.9	3647.3	3649.7	3651.6	3652.4	3653.2	3653.2	3651.6	3648.1	3643.3
1.5°	3640.1	3642.9	3643.7	3646.9	3650.0	3651.6	3652.0	3652.0	3648.9	3644.5	3638.9
2°	3633.7	3637.7	3638.9	3642.9	3647.7	3648.9	3649.3	3649.3	3645.3	3639.3	3632.6
2.5°	3626.2	3631.0	3632.6	3637.7	3643.7	3644.9	3645.7	3645.3	3640.1	3632.6	3625.0
3°	3616.7	3622.2	3625.0	3630.6	3637.7	3639.7	3640.1	3639.3	3634.1	3625.4	3615.9
3.5°	3606.3	3612.3	3615.9	3622.2	3630.6	3633.0	3633.4	3632.2	3626.2	3616.3	3605.5
4°	3593.6	3600.8	3605.9	3613.1	3621.8	3624.6	3625.4	3624.2	3617.1	3605.9	3593.6
4.5°	3582.5	3589.6	3594.4	3601.1	3611.5	3615.1	3616.3	3614.3	3607.1	3594.8	3580.9
5°	3570.1	3578.9	3581.3	3589.2	3600.8	3603.9	3605.5	3603.9	3597.2	3582.9	3567.4
5.5°	3557.8	3566.2	3567.8	3575.7	3590.0	3592.8	3593.2	3592.8	3588.0	3570.9	3554.2
6°	3545.1	3553.0	3553.8	3563.8	3580.5	3582.1	3580.5	3583.3	3577.7	3559.4	3540.7
6.5°	3534.0	3540.7	3539.1	3551.1	3570.9	3571.7	3567.8	3572.1	3568.2	3547.1	3526.8
7°	3521.6	3528.8	3524.0	3538.3	3561.0	3561.0	3553.8	3561.4	3558.2	3535.2	3513.7
7.5°	3506.9	3515.3	3508.9	3526.4	3551.9	3550.7	3540.7	3549.5	3546.3	3522.0	3499.8
8°	3492.2	3501.0	3494.6	3514.1	3541.1	3539.9	3528.8	3536.7	3534.4	3508.5	3485.1
8.5°	3476.7	3485.5	3479.9	3501.0	3529.6	3528.8	3515.7	3523.2	3521.6	3493.8	3470.3
9°	3458.4	3468.8	3465.6	3485.9	3516.1	3515.7	3504.1	3509.7	3507.3	3479.5	3455.6
9.5°	3439.7	3450.9	3450.9	3471.1	3503.3	3502.6	3491.8	3494.2	3493.0	3464.8	3439.7
10°	3420.3	3432.2	3436.2	3455.6	3489.4	3489.0	3478.7	3478.3	3477.5	3448.9	3423.0
10.5°	3400.0	3412.3	3420.3	3440.1	3474.3	3474.7	3466.0	3462.0	3461.2	3433.0	3405.1
11°	3379.7	3390.4	3404.0	3422.6	3458.8	3458.8	3451.7	3445.3	3443.7	3415.1	3386.9
11.5°	3360.2	3369.0	3386.5	3405.1	3440.9	3442.5	3436.6	3427.0	3427.0	3397.2	3367.8
12°	3339.9	3347.9	3367.4	3386.1	3422.6	3424.6	3421.4	3408.7	3410.7	3378.9	3348.3
12.5°	3319.3	3326.8	3347.5	3367.0	3405.1	3405.5	3405.9	3390.4	3394.0	3361.8	3328.0
13°	3297.8	3305.0	3328.4	3347.1	3388.1	3386.5	3390.4	3373.7	3377.7	3344.3	3308.5
13.5°	3274.3	3283.5	3306.6	3328.4	3371.4	3369.0	3373.7	3356.6	3358.6	3327.6	3286.7
14°	3250.9	3260.8	3285.9	3309.7	3353.1	3351.5	3356.6	3340.3	3338.4	3309.7	3264.4
14.5°	3226.6	3237.0	3263.6	3291.0	3332.0	3333.2	3338.0	3322.1	3318.5	3289.9	3242.1
15°	3202.8	3212.3	3242.1	3271.2	3310.9	3314.1	3318.5	3302.6	3297.4	3268.8	3219.1
15.5°	3177.7	3188.5	3219.1	3249.3	3289.1	3293.0	3297.8	3282.3	3276.3	3247.3	3196.8
16°	3152.3	3163.4	3198.4	3227.0	3268.0	3272.0	3277.1	3263.2	3254.1	3225.1	3174.2
16.5°	3125.7	3138.8	3175.4	3204.4	3246.5	3249.7	3256.9	3241.7	3231.4	3202.8	3151.9
17°	3098.2	3112.9	3151.1	3180.9	3223.5	3228.6	3236.6	3220.7	3208.4	3178.9	3127.3
17.5°	3070.4	3087.9	3125.7	3157.1	3200.4	3206.0	3216.7	3198.8	3183.3	3154.7	3103.8
18°	3041.4	3060.9	3102.6	3132.8	3175.4	3183.3	3197.6	3176.5	3156.7	3128.8	3077.2
18.5°	3011.6	3033.0	3076.4	3108.2	3149.9	3159.1	3175.8	3153.1	3130.0	3102.2	3050.1
19°	2981.7	3005.2	3049.7	3081.9	3123.7	3134.0	3153.1	3128.0	3103.8	3074.8	3022.7
19.5°	2951.5	2977.0	3022.3	3054.1	3095.8	3108.6	3128.4	3102.2	3075.6	3047.3	2994.5
20°	2920.5	2947.2	2994.5	3026.3	3068.4	3081.9	3103.4	3076.0	3048.5	3019.1	2965.8
20.5°	2889.1	2917.3	2964.6	2997.2	3041.4	3054.9	3076.4	3048.9	3021.5	2989.7	2937.2
21°	2855.7	2887.1	2934.0	2967.8	3013.9	3027.1	3050.1	3021.9	2994.1	2960.3	2908.6

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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°	2753.1	2790.5	2841.4	2876.4	2931.6	2945.2	2963.5	2939.2	2911.8	2872.4	2815.6
23°	2716.2	2755.5	2807.6	2845.0	2903.8	2917.7	2933.6	2911.4	2884.3	2841.0	2781.8
23.5°	2680.4	2721.3	2774.6	2815.2	2876.4	2890.3	2903.8	2883.5	2851.7	2809.6	2747.2
24°	2645.4	2684.4	2739.6	2784.2	2845.4	2859.7	2874.0	2852.1	2820.7	2777.8	2711.4
24.5°	2612.0	2649.4	2703.4	2753.5	2815.6	2830.3	2839.8	2820.7	2790.5	2745.6	2675.2
25°	2579.0	2615.2	2667.3	2721.7	2786.5	2799.3	2804.8	2788.9	2761.5	2713.0	2637.4
25.5°	2543.6	2581.8	2629.9	2689.5	2758.7	2767.5	2768.2	2755.5	2732.1	2682.0	2600.1
26°	2507.0	2550.8	2592.1	2657.3	2728.1	2736.8	2731.7	2723.3	2701.1	2652.2	2561.9
26.5°	2469.7	2518.6	2554.0	2625.5	2694.7	2707.4	2692.3	2691.9	2667.7	2622.3	2523.3
27°	2430.3	2484.8	2513.8	2595.3	2660.5	2679.6	2652.6	2662.5	2632.7	2592.1	2484.8
27.5°	2390.2	2449.4	2474.1	2565.5	2625.1	2649.8	2614.0	2632.7	2596.9	2560.3	2445.4
28°	2347.6	2411.6	2432.3	2533.3	2588.2	2618.4	2575.4	2601.7	2559.5	2526.5	2405.7
28.5°	2305.5	2374.7	2391.8	2500.3	2550.0	2585.8	2536.5	2567.5	2521.4	2491.9	2365.9
29°	2261.0	2336.5	2350.4	2464.1	2509.8	2551.2	2499.1	2534.5	2481.2	2455.8	2325.4
29.5°	2216.4	2297.1	2309.1	2427.9	2468.9	2515.8	2458.5	2497.9	2439.1	2418.0	2282.8
30°	2170.3	2255.8	2268.9	2390.2	2427.1	2478.8	2420.0	2460.5	2397.3	2379.0	2239.9
30.5°	2123.4	2212.5	2229.1	2350.8	2383.4	2439.9	2379.4	2422.0	2353.2	2337.7	2198.9
31°	2072.5	2169.1	2189.8	2310.3	2339.3	2400.1	2339.3	2382.6	2309.9	2296.3	2159.6
31.5°	2027.2	2126.2	2153.2	2268.5	2293.2	2358.8	2298.3	2340.5	2263.7	2253.4	2121.8
32°	1976.7	2082.1	2116.6	2226.4	2247.0	2316.6	2260.2	2299.1	2218.0	2210.5	2086.8
32.5°	1927.4	2036.3	2080.5	2184.2	2199.7	2273.7	2222.8	2255.8	2168.3	2166.7	2052.6
33°	1874.5	1991.0	2044.3	2141.7	2151.6	2229.9	2188.2	2212.1	2119.8	2122.6	2020.8
33.5°	1825.2	1944.5	2007.7	2098.0	2101.5	2185.4	2154.8	2167.1	2068.1	2075.7	1988.2
34°	1771.2	1897.2	1972.7	2053.4	2049.8	2141.3	2122.6	2121.4	2016.1	2030.0	1955.6
34.5°	1718.7	1848.7	1937.7	2007.7	1995.8	2094.0	2090.0	2075.7	1962.4	1981.1	1921.0
35°	1664.2	1799.4	1902.4	1963.2	1942.5	2045.9	2057.8	2028.8	1910.3	1933.0	1887.6
35.5°	1614.5	1749.7	1866.6	1916.7	1889.6	1997.4	2023.6	1981.9	1855.8	1883.7	1851.5
36°	1563.6	1700.0	1828.4	1869.0	1836.0	1948.9	1988.2	1933.0	1803.0	1834.0	1816.1
36.5°	1514.7	1649.1	1790.6	1820.8	1783.5	1897.2	1952.0	1883.3	1752.1	1783.1	1779.1
37°	1451.1	1600.2	1752.5	1771.6	1732.6	1845.5	1914.7	1833.6	1700.8	1733.4	1742.1
37.5°	1379.9	1552.1	1714.7	1722.7	1684.1	1793.8	1875.7	1783.9	1640.8	1682.5	1704.4
38°	1308.8	1504.8	1675.7	1673.4	1622.5	1742.9	1836.8	1734.6	1577.9	1633.6	1667.8
38.5°	1238.0	1456.7	1637.2	1625.2	1555.7	1693.6	1798.2	1684.9	1506.4	1585.5	1631.2
39°	1166.9	1391.5	1600.6	1580.3	1484.5	1645.9	1759.6	1638.8	1431.2	1538.2	1595.0
39.5°	1095.7	1325.5	1563.2	1533.8	1404.2	1601.0	1719.9	1591.9	1350.1	1483.7	1558.1
40°	1022.1	1259.5	1527.4	1490.5	1324.7	1544.1	1681.3	1543.7	1271.0	1422.9	1522.3
40.5°	949.0	1193.5	1490.1	1439.2	1246.0	1482.9	1643.5	1492.9	1194.3	1357.3	1486.9
41°	881.8	1127.5	1454.7	1374.8	1170.4	1416.9	1605.8	1433.2	1120.3	1288.1	1451.9
41.5°	814.6	1057.5	1435.2	1310.0	1098.1	1344.2	1569.2	1370.0	1049.2	1216.6	1418.1
42°	753.0	990.3	1396.6	1245.2	1025.3	1270.2	1531.4	1302.4	976.4	1146.2	1383.5
42.5°	693.0	923.1	1357.7	1180.8	957.7	1197.5	1496.0	1233.6	908.0	1079.8	1350.5
43°	634.9	856.0	1319.1	1116.0	884.6	1127.9	1460.7	1165.7	837.7	1014.2	1317.5
43.5°	574.9	792.0	1280.2	1050.4	817.4	1060.7	1424.5	1098.9	770.5	951.8	1283.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	414.3	618.6	1178.0	867.5	628.2	862.7	1316.3	910.4	589.2	762.9	1181.6
45.5°	365.4	562.2	1144.2	806.3	572.5	797.9	1279.8	847.2	533.9	704.1	1148.6
46°	320.4	508.5	1107.2	749.0	514.8	735.9	1244.0	784.8	480.3	645.2	1115.2
46.5°	275.9	456.0	1063.5	689.8	463.6	677.1	1209.0	724.8	429.4	593.6	1076.6
47°	235.0	407.1	1013.0	634.5	417.4	619.8	1176.4	666.3	384.8	538.7	1039.2
47.5°	196.8	359.8	961.3	579.7	371.7	563.4	1134.7	610.7	340.3	488.6	995.5
48°	165.0	314.9	910.0	529.6	326.0	509.7	1093.3	556.2	295.4	437.7	952.6
48.5°	137.2	272.3	860.7	477.9	279.9	458.0	1046.0	504.1	251.3	393.6	894.9
49°	118.5	232.6	803.5	429.8	234.6	412.3	989.1	452.8	213.9	349.1	833.3
49.5°	100.6	195.6	745.4	382.1	198.4	367.4	930.3	408.7	180.1	304.9	767.3
50°	82.3	162.2	682.2	337.1	165.8	322.0	865.9	364.2	147.9	260.8	702.9
50.5°	64.4	132.8	618.6	293.0	136.0	277.1	802.3	320.0	119.7	223.4	641.7
51°	50.1	114.9	556.6	254.0	109.3	231.8	737.9	275.9	94.6	189.2	582.4
51.5°	36.2	97.0	498.5	216.7	87.1	196.4	675.5	231.8	78.7	158.2	525.2
52°	22.7	78.7	443.7	182.5	72.8	163.8	612.3	195.6	62.4	128.0	468.7
52.5°	13.9	60.8	392.0	151.5	58.4	133.2	553.8	162.2	46.5	101.4	421.8
53°	12.3	46.9	342.3	128.8	43.7	106.9	495.4	132.4	30.2	78.3	374.5
53.5°	11.5	33.8	295.8	106.5	29.4	84.7	440.5	105.0	14.7	64.8	327.6
54°	10.7	20.7	253.2	83.9	15.5	70.0	392.4	81.1	13.9	51.3	280.3
54.5°	9.9	11.5	214.7	61.2	14.7	55.7	344.3	67.2	13.5	37.8	233.4
55°	9.5	10.7	179.7	39.0	14.3	41.3	296.6	53.3	13.1	24.3	197.6
55.5°	9.1	9.9	148.7	22.7	13.5	27.0	248.5	39.0	12.7	11.1	165.0
56°	8.7	9.5	127.6	12.3	13.1	12.7	209.1	25.0	12.3	10.7	135.2
56.5°	8.7	8.7	106.9	11.5	12.7	11.9	172.9	11.5	11.9	10.3	109.3
57°	8.3	8.3	85.9	11.1	12.3	11.5	140.7	11.1	11.5	9.9	86.7
57.5°	8.0	8.3	65.2	10.7	11.9	11.1	112.1	10.7	11.1	9.9	68.4
58°	7.6	8.0	44.5	10.3	11.5	10.7	87.5	10.7	10.7	9.5	57.6
58.5°	7.6	7.6	34.2	9.9	11.1	10.3	67.2	10.3	10.3	9.1	47.3
59°	7.2	7.6	26.2	9.5	10.7	10.3	56.5	9.9	9.9	8.7	36.6
59.5°	7.2	7.2	20.3	9.1	10.3	9.9	46.1	9.5	9.5	8.7	26.2
60°	6.8	7.2	15.5	9.1	9.9	9.5	36.2	9.1	9.1	8.3	15.9
60.5°	6.4	6.8	13.1	8.7	9.5	9.1	25.8	9.1	9.1	8.0	11.9
61°	6.4	6.8	11.1	8.3	9.5	8.7	15.5	8.7	8.7	8.0	8.7
61.5°	6.0	6.4	9.1	8.3	9.1	8.7	11.5	8.3	8.3	7.6	7.2
62°	6.0	6.4	6.8	8.0	8.7	8.3	9.1	8.3	8.0	7.2	6.4
62.5°	5.6	6.0	6.8	7.6	8.3	8.0	7.6	8.0	8.0	7.2	6.4
63°	5.6	6.0	6.4	7.6	8.3	8.0	7.2	7.6	7.6	6.8	6.0
63.5°	5.2	5.6	6.4	7.2	8.0	7.6	7.2	7.6	7.2	6.8	6.0
64°	5.2	5.6	6.0	7.2	7.6	7.6	6.8	7.2	7.2	6.4	5.6
64.5°	4.8	5.2	6.0	6.8	7.6	7.2	6.8	6.8	6.8	6.4	5.6
65°	4.8	5.2	5.6	6.4	7.2	6.8	6.4	6.8	6.4	6.0	5.2
65.5°	4.4	5.2	5.6	6.4	6.8	6.8	6.4	6.4	6.4	6.0	5.2
66°	4.4	4.8	5.2	6.0	6.8	6.4	6.0	6.4	6.0	5.6	4.8



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.0	4.4	4.8	5.6	6.0	6.0	5.6	5.6	5.2	5.2	4.4
68°	3.6	4.0	4.8	5.2	5.6	5.6	5.2	5.2	5.2	4.8	4.4
68.5°	3.6	4.0	4.4	5.2	5.6	5.6	5.2	5.2	4.8	4.8	4.0
69°	3.6	3.6	4.4	4.8	5.2	5.2	4.8	4.8	4.8	4.4	4.0
69.5°	3.2	3.6	4.0	4.8	5.2	5.2	4.8	4.8	4.4	4.4	4.0
70°	3.2	3.6	4.0	4.4	4.8	4.8	4.4	4.4	4.4	4.0	3.6
70.5°	3.2	3.2	3.6	4.4	4.8	4.8	4.4	4.4	4.4	4.0	3.6
71°	2.8	3.2	3.6	4.0	4.8	4.4	4.0	4.0	4.0	4.0	3.2
71.5°	2.8	3.2	3.6	4.0	4.4	4.4	4.0	4.0	4.0	3.6	3.2
72°	2.8	2.8	3.2	4.0	4.4	4.0	3.6	4.0	3.6	3.6	3.2
72.5°	2.8	2.8	3.2	3.6	4.0	4.0	3.6	3.6	3.6	3.2	2.8
73°	2.4	2.8	2.8	3.6	4.0	4.0	3.2	3.6	3.6	3.2	2.8
73.5°	2.4	2.8	2.8	3.2	3.6	3.6	3.2	3.2	3.2	3.2	2.4
74°	2.4	2.4	2.8	3.2	3.6	3.6	3.2	3.2	3.2	2.8	2.4
74.5°	2.4	2.4	2.4	3.2	3.6	3.6	2.8	3.2	3.2	2.8	2.4
75°	2.0	2.4	2.4	2.8	3.2	3.2	2.8	2.8	2.8	2.8	2.0
75.5°	2.0	2.0	2.4	2.8	3.2	3.2	2.4	2.8	2.8	2.4	2.0
76°	2.0	2.0	2.0	2.8	3.2	2.8	2.4	2.8	2.8	2.4	2.0
76.5°	2.0	2.0	2.0	2.4	2.8	2.8	2.4	2.4	2.4	2.4	2.0
77°	1.6	2.0	2.0	2.4	2.8	2.8	2.0	2.4	2.4	2.0	1.6
77.5°	1.6	1.6	1.6	2.4	2.8	2.4	2.0	2.4	2.4	2.0	1.6
78°	1.6	1.6	1.6	2.0	2.4	2.4	2.0	2.0	2.0	2.0	1.6
78.5°	1.6	1.6	1.6	2.0	2.4	2.4	1.6	2.0	2.0	2.0	1.6
79°	1.6	1.6	1.6	2.0	2.4	2.0	1.6	2.0	2.0	1.6	1.2
79.5°	1.2	1.2	1.2	2.0	2.0	2.0	1.6	1.6	2.0	1.6	1.2
80°	1.2	1.2	1.2	1.6	2.0	2.0	1.6	1.6	1.6	1.6	1.2
80.5°	1.2	1.2	1.2	1.6	2.0	1.6	1.2	1.6	1.6	1.2	1.2
81°	1.2	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.6	1.2	0.8
81.5°	0.8	1.2	0.8	1.2	1.6	1.6	1.2	1.2	1.6	1.2	0.8
82°	0.8	0.8	0.8	1.2	1.6	1.6	1.2	1.2	1.2	1.2	0.8
82.5°	0.8	0.8	0.8	1.2	1.6	1.2	0.8	1.2	1.2	0.8	0.8
83°	0.8	0.8	0.8	0.8	1.2	1.2	0.8	0.8	1.2	0.8	0.8
83.5°	0.8	0.8	0.8	0.8	1.2	1.2	0.8	0.8	1.2	0.8	0.4
84°	0.4	0.4	0.4	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.4
84.5°	0.4	0.4	0.4	0.8	1.2	0.8	0.8	0.8	0.8	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.8	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.8	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
87°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.4	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.4	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3649.7	3649.7	3649.7	3649.7	3649.7	3649.7
0.5°	3646.5	3644.1	3644.9	3645.7	3647.7	3649.3
1°	3642.1	3638.9	3638.1	3640.1	3643.3	3645.7
1.5°	3635.7	3631.0	3630.6	3632.6	3636.9	3640.1
2°	3628.2	3622.2	3620.6	3623.4	3628.6	3633.7
2.5°	3619.4	3611.5	3609.9	3613.1	3619.4	3626.2
3°	3608.7	3600.0	3598.8	3601.5	3609.1	3616.7
3.5°	3597.2	3588.4	3585.2	3589.2	3596.8	3606.3
4°	3585.6	3576.9	3573.7	3574.5	3583.7	3593.6
4.5°	3574.5	3565.4	3560.6	3559.8	3569.3	3582.5
5°	3562.6	3552.6	3547.1	3545.5	3555.4	3570.1
5.5°	3549.9	3538.7	3532.4	3529.6	3540.7	3557.8
6°	3535.9	3525.6	3517.7	3513.3	3524.8	3545.1
6.5°	3522.0	3510.1	3502.6	3497.4	3509.7	3534.0
7°	3507.7	3494.6	3485.1	3480.7	3495.4	3521.6
7.5°	3491.4	3476.3	3467.2	3463.2	3479.5	3506.9
8°	3473.9	3458.0	3448.5	3446.5	3463.2	3492.2
8.5°	3454.8	3438.1	3427.8	3427.4	3446.1	3476.7
9°	3435.4	3417.5	3407.1	3409.1	3428.2	3458.4
9.5°	3414.7	3396.8	3384.9	3390.4	3409.5	3439.7
10°	3393.6	3374.9	3363.4	3371.0	3389.6	3420.3
10.5°	3372.5	3352.7	3339.9	3351.1	3369.0	3400.0
11°	3350.3	3330.8	3316.5	3330.4	3347.9	3379.7
11.5°	3328.0	3309.3	3293.0	3308.9	3326.8	3360.2
12°	3306.2	3287.1	3271.2	3286.7	3305.0	3339.9
12.5°	3285.1	3263.2	3248.1	3264.0	3283.9	3319.3
13°	3263.6	3239.4	3225.8	3241.0	3262.4	3297.8
13.5°	3240.2	3215.1	3200.4	3217.1	3241.4	3274.3
14°	3217.9	3190.5	3175.4	3192.1	3219.5	3250.9
14.5°	3193.6	3166.2	3149.9	3167.8	3196.4	3226.6
15°	3170.2	3141.6	3125.7	3143.6	3172.2	3202.8
15.5°	3145.5	3116.1	3099.8	3118.9	3147.1	3177.7
16°	3121.7	3089.9	3074.4	3093.9	3122.1	3152.3
16.5°	3097.0	3064.4	3048.1	3068.0	3096.6	3125.7
17°	3072.0	3037.4	3022.3	3043.0	3070.4	3098.2
17.5°	3046.1	3009.6	2995.7	3015.9	3043.8	3070.4
18°	3020.3	2980.9	2967.8	2988.9	3015.9	3041.4
18.5°	2992.5	2953.1	2940.4	2961.5	2987.3	3011.6
19°	2964.6	2923.7	2911.4	2932.0	2958.3	2981.7
19.5°	2936.8	2893.9	2882.3	2903.4	2928.1	2951.5
20°	2909.0	2863.7	2852.1	2873.6	2896.3	2920.5
20.5°	2880.8	2831.9	2822.7	2843.0	2864.9	2889.1
21°	2850.5	2799.7	2792.5	2811.6	2832.7	2855.7



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2753.9	2697.5	2695.5	2715.4	2732.9	2753.1
23°	2720.9	2662.1	2662.1	2680.8	2697.9	2716.2
23.5°	2685.6	2630.3	2626.3	2647.4	2662.9	2680.4
24°	2650.2	2598.1	2590.9	2610.8	2627.1	2645.4
24.5°	2613.2	2565.9	2557.9	2575.0	2589.3	2612.0
25°	2578.6	2533.7	2525.3	2537.7	2550.8	2579.0
25.5°	2544.8	2501.1	2495.1	2501.5	2515.0	2543.6
26°	2513.4	2467.3	2462.9	2462.1	2479.6	2507.0
26.5°	2482.8	2431.9	2431.1	2423.2	2446.6	2469.7
27°	2452.2	2394.9	2399.3	2383.0	2412.8	2430.3
27.5°	2420.0	2356.0	2365.5	2341.7	2377.4	2390.2
28°	2387.0	2315.4	2331.3	2299.5	2341.7	2347.6
28.5°	2352.0	2274.9	2295.1	2258.2	2304.7	2305.5
29°	2316.2	2233.5	2257.8	2215.6	2266.1	2261.0
29.5°	2278.4	2189.8	2219.6	2173.9	2226.0	2216.4
30°	2240.7	2146.5	2179.5	2131.7	2185.0	2170.3
30.5°	2200.9	2101.1	2138.5	2092.0	2143.3	2123.4
31°	2161.6	2054.6	2096.0	2052.2	2100.3	2072.5
31.5°	2119.4	2007.3	2053.4	2013.7	2056.6	2027.2
32°	2078.9	1960.0	2010.1	1974.7	2012.1	1976.7
32.5°	2036.3	1909.9	1966.8	1938.5	1967.2	1927.4
33°	1993.0	1860.2	1921.0	1902.4	1922.2	1874.5
33.5°	1949.7	1808.9	1873.7	1867.8	1876.9	1825.2
34°	1905.5	1756.4	1827.2	1833.2	1831.6	1771.2
34.5°	1859.0	1704.0	1777.1	1797.0	1783.9	1718.7
35°	1813.7	1651.9	1727.8	1760.4	1737.0	1664.2
35.5°	1767.6	1602.6	1678.1	1723.8	1690.1	1614.5
36°	1721.1	1554.9	1628.4	1685.3	1642.3	1563.6
36.5°	1673.0	1506.0	1577.9	1647.5	1595.0	1514.7
37°	1625.2	1444.0	1529.8	1610.5	1546.9	1451.1
37.5°	1577.9	1371.2	1482.1	1573.2	1499.2	1379.9
38°	1531.4	1298.4	1440.4	1535.8	1451.9	1308.8
38.5°	1487.7	1226.1	1375.6	1498.0	1401.0	1238.0
39°	1447.1	1153.3	1310.4	1462.6	1350.1	1166.9
39.5°	1403.0	1080.6	1245.2	1421.7	1298.8	1095.7
40°	1347.0	1007.8	1180.4	1389.1	1248.0	1022.1
40.5°	1282.5	935.9	1115.6	1356.1	1196.7	949.0
41°	1217.3	867.1	1050.4	1323.1	1135.8	881.8
41.5°	1152.5	800.3	983.6	1290.1	1075.4	814.6
42°	1089.7	739.1	916.8	1256.7	1015.8	753.0
42.5°	1026.1	680.6	850.8	1222.9	953.4	693.0
43°	961.7	621.8	788.0	1189.9	891.3	634.9
43.5°	896.1	563.4	728.3	1156.1	830.1	574.9



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	715.2	405.1	563.0	1060.3	661.9	414.3
45.5°	659.6	358.2	509.7	1022.5	609.5	365.4
46°	604.3	312.9	460.0	981.2	557.8	320.4
46.5°	550.6	269.5	411.1	929.1	504.5	275.9
47°	498.5	228.6	365.4	879.0	456.0	235.0
47.5°	447.7	192.4	319.6	830.9	407.5	196.8
48°	403.5	161.0	277.1	780.8	362.2	165.0
48.5°	359.4	134.4	237.3	727.1	317.3	137.2
49°	315.7	115.7	200.8	665.1	276.7	118.5
49.5°	271.5	97.4	168.2	603.5	235.8	100.6
50°	227.4	79.5	139.1	547.4	199.2	82.3
50.5°	191.2	61.6	120.9	493.0	165.8	64.4
51°	159.0	47.3	103.0	442.9	137.6	50.1
51.5°	131.2	33.4	84.7	394.4	119.7	36.2
52°	108.1	20.3	66.8	348.7	101.8	22.7
52.5°	88.7	11.9	48.5	305.7	83.9	13.9
53°	72.4	11.1	34.6	265.6	66.0	12.3
53.5°	60.0	10.7	21.5	227.4	48.5	11.5
54°	47.7	9.9	11.9	194.0	34.6	10.7
54.5°	35.0	9.5	11.1	163.4	21.9	9.9
55°	22.7	9.1	9.9	135.6	12.3	9.5
55.5°	10.3	8.7	9.1	115.3	11.1	9.1
56°	8.3	8.3	8.3	95.0	9.9	8.7
56.5°	8.3	8.3	8.0	74.7	8.7	8.7
57°	8.0	8.0	7.6	54.5	8.0	8.3
57.5°	7.6	7.6	7.6	41.3	7.6	8.0
58°	7.6	7.6	7.2	31.4	7.2	7.6
58.5°	7.2	7.2	7.2	23.1	7.2	7.6
59°	7.2	6.8	6.8	17.1	6.8	7.2
59.5°	6.8	6.8	6.8	15.1	6.8	7.2
60°	6.8	6.4	6.4	12.7	6.4	6.8
60.5°	6.4	6.4	6.4	10.3	6.4	6.4
61°	6.4	6.0	6.0	8.0	6.0	6.4
61.5°	6.0	6.0	6.0	6.0	6.0	6.0
62°	6.0	5.6	5.6	5.6	5.6	6.0
62.5°	5.6	5.6	5.6	5.6	5.6	5.6
63°	5.6	5.2	5.2	5.2	5.6	5.6
63.5°	5.2	4.8	5.2	5.2	5.2	5.2
64°	5.2	4.8	4.8	5.2	5.2	5.2
64.5°	4.8	4.4	4.8	4.8	4.8	4.8
65°	4.8	4.4	4.8	4.8	4.8	4.8
65.5°	4.8	4.4	4.4	4.4	4.8	4.4
66°	4.4	4.0	4.4	4.4	4.4	4.4



TEST NUMBER: P776487

CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.0	3.6	4.0	4.0	4.0	4.0
68°	3.6	3.6	3.6	4.0	4.0	3.6
68.5°	3.6	3.2	3.6	3.6	3.6	3.6
69°	3.6	3.2	3.6	3.6	3.6	3.6
69.5°	3.2	3.2	3.2	3.6	3.6	3.2
70°	3.2	2.8	3.2	3.2	3.2	3.2
70.5°	3.2	2.8	3.2	3.2	3.2	3.2
71°	2.8	2.8	2.8	2.8	3.2	2.8
71.5°	2.8	2.8	2.8	2.8	2.8	2.8
72°	2.8	2.4	2.8	2.8	2.8	2.8
72.5°	2.8	2.4	2.4	2.4	2.8	2.8
73°	2.4	2.4	2.4	2.4	2.8	2.4
73.5°	2.4	2.4	2.4	2.4	2.4	2.4
74°	2.4	2.0	2.4	2.0	2.4	2.4
74.5°	2.0	2.0	2.0	2.0	2.4	2.4
75°	2.0	2.0	2.0	2.0	2.0	2.0
75.5°	2.0	2.0	2.0	2.0	2.0	2.0
76°	2.0	1.6	2.0	1.6	2.0	2.0
76.5°	2.0	1.6	1.6	1.6	2.0	2.0
77°	1.6	1.6	1.6	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6
78°	1.6	1.6	1.6	1.2	1.6	1.6
78.5°	1.6	1.6	1.6	1.2	1.6	1.6
79°	1.2	1.2	1.2	1.2	1.6	1.6
79.5°	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2	1.2
80.5°	1.2	1.2	1.2	0.8	1.2	1.2
81°	1.2	1.2	1.2	0.8	1.2	1.2
81.5°	0.8	0.8	0.8	0.8	0.8	0.8
82°	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.8	0.8
83°	0.8	0.8	0.8	0.4	0.8	0.8
83.5°	0.8	0.8	0.8	0.4	0.4	0.8
84°	0.4	0.8	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.4	0.4	0.4	0.0	0.0	0.4
87°	0.0	0.4	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776487
CATALOG NUMBER: HCDJBL3040CSD-HCD8TRC-4000lm-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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Scaled Data Report



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Scaled Data Report





21.5°	2822.7	2855.3	2903.8	2937.2	2986.5	2999.6	3023.1	2994.5	2966.6	2930.9	2880.0
22°	2788.9	2823.5	2872.8	2906.2	2959.1	2972.2	2993.7	2966.6	2939.2	2901.8	2848.6



44°	518.4	733.1	1245.6	989.1	749.0	994.7	1388.7	1034.5	705.7	887.0	1249.9
44.5°	464.4	675.1	1210.6	927.5	689.4	929.9	1352.1	972.8	645.6	825.3	1215.8



66.5°	4.0	4.8	5.2	6.0	6.4	6.4	5.6	6.0	5.6	5.6	4.8
67°	4.0	4.4	5.2	5.6	6.0	6.0	5.6	5.6	5.6	5.2	4.8



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

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21.5°	2819.5	2767.1	2759.9	2781.0	2800.5	2822.7
22°	2786.9	2732.1	2727.3	2748.4	2767.1	2788.9



44°	832.5	508.9	673.1	1122.7	770.5	518.4
44.5°	772.9	454.8	617.4	1089.3	715.2	464.4

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66.5°	4.4	4.0	4.0	4.4	4.4	4.0
67°	4.0	3.6	4.0	4.0	4.0	4.0

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Peachtree City, GA 30269

Scaled Data Report



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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Scaled Data Report



(END OF REPORT)