

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P776294

Luminaire Tested: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776294  
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-HCD4TRH-4000lm-5000K  
Description: 4 INCH ROUND MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

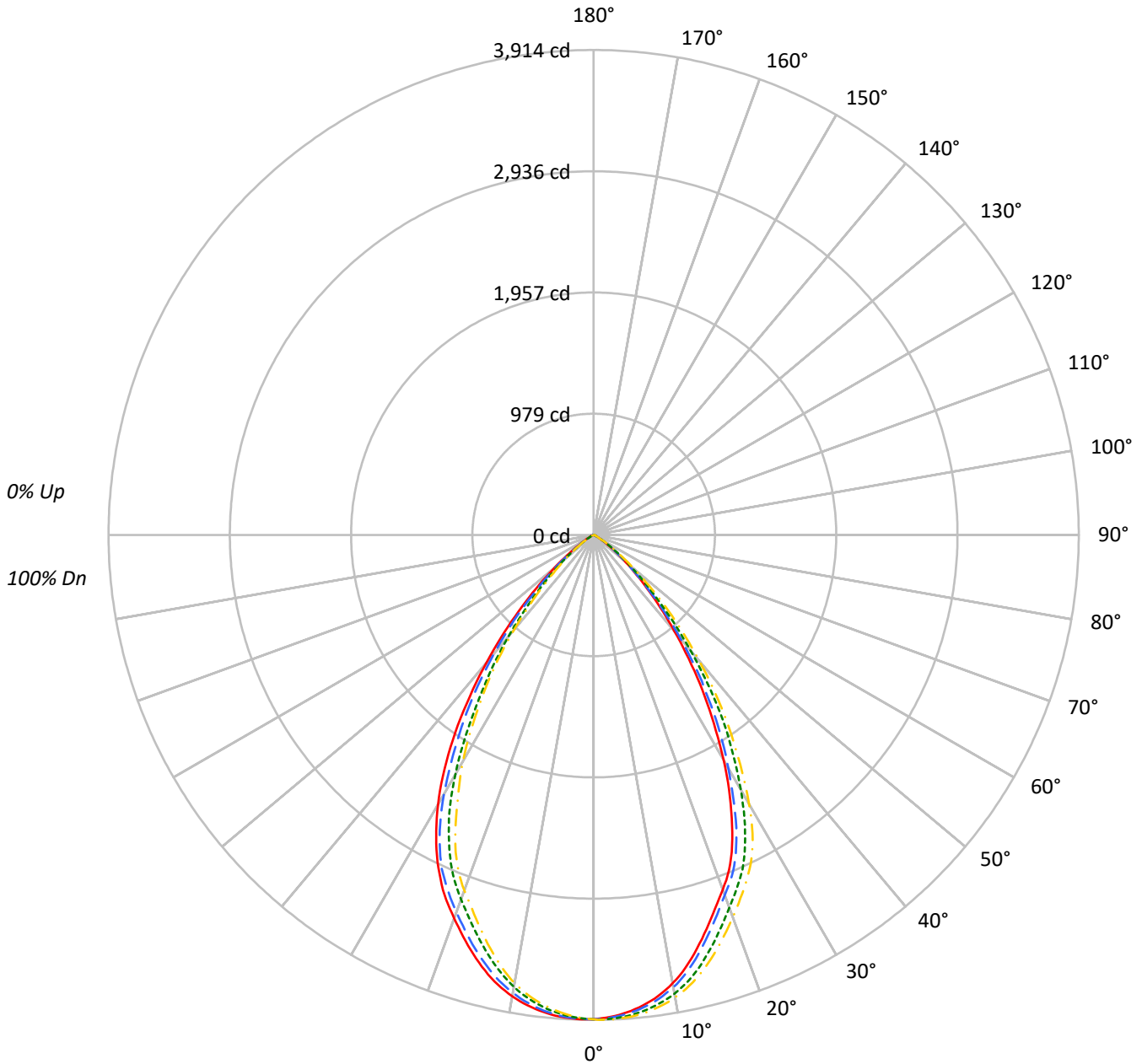
Lumens per Lamp: N/A  
Luminaire Lumens: 4405.5 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 0.98  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	90	85	82	87	84	81	85	82	79	78					78			
4	95	87	81	76	93	85	80	75	83	78	75	81	77	74	79	76	73	71					71			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65					65			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60					60			
7	80	70	63	58	78	69	63	58	68	62	58	66	61	58	65	61	57	56					56			
8	75	65	58	54	74	64	58	54	63	58	54	62	57	53	61	57	53	52					52			
9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	58	53	49	48					48			
10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	50	46	45					45			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	492022	492022	492022	492022
5°	485374	490087	491009	487080
10°	469556	480329	483204	473377
15°	439726	458110	465628	448091
20°	407887	428712	440926	419123
25°	367479	399056	411553	383156
30°	304850	345278	364954	324526
35°	234553	277863	298849	247628
40°	166470	199196	221309	175752
45°	107908	127628	144821	109724
50°	62397	74243	80821	59833
55°	30696	37432	37871	27558
60°	12862	14624	15026	10697
65°	6700	6938	7177	5598
70°	3900	4048	4379	3312
75°	2383	2577	2577	1994
80°	1160	1812	1449	1160
85°	578	1155	578	578

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°  
 Vertical Angle: 45°  
 Luminance: 148096 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	364.8	8.3
10°-20°	973.8	22.1
20°-30°	1276.4	29.0
30°-40°	1068.9	24.3
40°-50°	542.0	12.3
50°-60°	148.1	3.4
60°-70°	24.9	0.6
70°-80°	5.8	0.1
80°-90°	0.7	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°	2615.0	59.4
0°-40°	3684.0	83.6
0°-60°	4374.1	99.3
0°-90°	4405.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4405.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3910	3910	3910	3910	3910	
5°	3842	3879	3887	3856	3842	361
15°	3375	3516	3574	3439	3375	945
25°	2646	2874	2964	2759	2646	1200
35°	1527	1809	1945	1612	1527	951
45°	606	717	814	616	606	477
55°	140	171	173	126	140	136
65°	22	23	24	19	22	25
75°	5	5	5	4	5	6
85°	0	1	0	0	0	0
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°	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6
0.5°	3905.1	3905.5	3907.2	3910.0	3911.3	3912.5	3912.9	3912.5	3909.2	3908.4	3908.8
1°	3901.9	3902.3	3905.1	3908.4	3911.3	3912.9	3913.7	3913.3	3910.4	3908.8	3908.8
1.5°	3897.4	3899.0	3902.3	3906.4	3910.4	3912.9	3913.7	3913.7	3910.0	3908.4	3906.8
2°	3892.4	3894.9	3898.2	3903.5	3908.4	3911.7	3913.7	3913.3	3909.2	3906.8	3905.5
2.5°	3886.3	3889.2	3894.1	3899.4	3905.9	3910.4	3912.5	3911.7	3907.6	3904.3	3902.7
3°	3879.4	3883.0	3887.9	3894.9	3901.9	3907.2	3910.0	3910.0	3904.7	3901.4	3899.0
3.5°	3871.2	3875.7	3881.8	3888.4	3897.8	3903.9	3906.8	3906.4	3901.9	3897.8	3894.5
4°	3862.6	3867.5	3873.6	3881.4	3892.9	3899.4	3903.5	3902.7	3897.8	3893.3	3889.6
4.5°	3853.2	3858.1	3865.4	3874.0	3886.7	3894.5	3899.4	3898.6	3892.0	3887.5	3883.0
5°	3842.1	3848.7	3855.6	3864.6	3879.4	3888.8	3893.7	3892.9	3886.7	3881.4	3876.5
5.5°	3830.7	3836.8	3845.4	3855.2	3871.6	3881.8	3887.5	3886.3	3879.8	3874.0	3868.3
6°	3817.2	3824.5	3834.8	3845.0	3862.2	3874.0	3880.6	3879.8	3872.4	3866.3	3860.1
6.5°	3804.1	3812.7	3822.5	3834.4	3852.8	3865.9	3873.2	3871.6	3864.2	3856.9	3849.9
7°	3788.9	3797.9	3809.4	3822.5	3842.1	3856.4	3864.2	3863.4	3854.8	3847.4	3839.3
7.5°	3773.0	3782.0	3795.1	3809.4	3830.7	3846.2	3854.0	3853.2	3845.0	3836.4	3827.4
8°	3755.8	3766.0	3779.9	3795.5	3818.4	3834.8	3842.9	3841.3	3834.4	3824.9	3814.7
8.5°	3737.4	3748.0	3763.2	3779.9	3804.9	3822.1	3831.5	3830.7	3822.1	3812.3	3800.8
9°	3717.4	3728.8	3744.8	3763.6	3791.0	3809.0	3818.4	3817.6	3809.4	3798.8	3786.1
9.5°	3696.9	3708.8	3725.9	3746.0	3775.0	3794.3	3804.9	3804.1	3796.3	3784.4	3770.1
10°	3674.4	3687.5	3705.9	3727.2	3758.7	3778.7	3788.9	3789.4	3781.2	3769.3	3753.4
10.5°	3649.9	3663.8	3685.0	3706.7	3740.3	3761.1	3773.0	3774.2	3765.6	3752.1	3736.2
11°	3625.3	3639.6	3660.9	3685.4	3721.0	3743.1	3756.2	3756.6	3748.4	3734.9	3716.9
11.5°	3597.5	3613.9	3636.0	3662.1	3701.0	3724.3	3737.8	3739.0	3730.9	3716.1	3696.5
12°	3568.5	3585.2	3609.0	3637.6	3679.3	3703.0	3717.8	3719.8	3712.0	3696.5	3676.0
12.5°	3538.6	3555.8	3580.7	3610.6	3654.8	3680.9	3698.1	3700.6	3692.0	3675.6	3654.0
13°	3507.9	3525.9	3551.3	3584.0	3629.8	3658.5	3675.2	3678.5	3670.3	3653.1	3630.6
13.5°	3475.6	3493.6	3521.4	3553.7	3603.6	3632.7	3652.7	3656.4	3647.8	3630.2	3606.9
14°	3442.0	3461.7	3489.1	3523.5	3575.8	3607.3	3627.8	3631.9	3623.7	3606.5	3580.7
14.5°	3408.9	3427.3	3456.0	3491.5	3546.4	3580.3	3602.0	3608.1	3600.0	3581.5	3555.4
15°	3375.0	3394.6	3422.8	3460.5	3516.1	3552.5	3575.8	3581.1	3573.8	3555.0	3528.8
15.5°	3340.6	3360.6	3389.3	3427.7	3486.2	3523.5	3549.2	3555.8	3547.6	3529.2	3501.8
16°	3307.0	3326.7	3356.5	3394.6	3455.1	3494.8	3521.8	3528.8	3521.4	3501.8	3474.0
16.5°	3272.3	3292.7	3322.6	3362.7	3424.5	3465.4	3492.4	3502.6	3494.4	3474.8	3445.3
17°	3239.1	3258.4	3289.0	3328.7	3391.7	3435.5	3463.3	3474.0	3466.2	3447.0	3415.9
17.5°	3204.8	3224.8	3254.7	3296.0	3359.4	3404.0	3434.3	3444.5	3438.0	3417.5	3387.2
18°	3171.2	3191.7	3222.0	3263.3	3327.9	3373.7	3404.0	3415.0	3408.9	3388.9	3356.5
18.5°	3137.3	3157.7	3188.0	3229.7	3295.6	3342.6	3374.1	3387.2	3379.0	3359.8	3326.3
19°	3106.2	3125.8	3155.7	3197.4	3263.7	3310.7	3343.9	3355.3	3350.0	3330.4	3296.8
19.5°	3074.7	3094.3	3124.6	3165.5	3233.0	3280.0	3313.6	3325.9	3321.0	3301.3	3268.2
20°	3045.6	3064.0	3093.5	3134.8	3201.1	3249.0	3282.5	3297.2	3292.3	3272.7	3238.7
20.5°	3014.5	3033.8	3063.2	3103.7	3170.8	3217.9	3253.0	3267.8	3263.3	3244.0	3209.3
21°	2984.3	3003.1	3033.4	3073.0	3140.5	3188.0	3222.8	3237.1	3234.2	3215.0	3180.2



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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°	2875.5	2902.1	2937.6	2981.4	3047.7	3097.6	3134.0	3150.4	3145.0	3123.8	3087.4
23°	2835.8	2862.0	2900.4	2947.9	3016.6	3064.5	3104.1	3119.3	3112.7	3087.4	3054.6
23.5°	2791.6	2818.2	2860.7	2909.8	2985.1	3031.7	3072.2	3085.7	3075.5	3051.4	3021.9
24°	2744.6	2773.2	2817.4	2869.3	2953.6	2998.6	3039.9	3052.2	3038.3	3015.0	2988.8
24.5°	2695.1	2724.1	2772.0	2826.4	2914.7	2965.9	3008.0	3019.0	3001.1	2978.6	2956.1
25°	2646.4	2675.0	2724.9	2779.3	2873.8	2933.1	2976.1	2985.5	2963.8	2942.1	2915.6
25.5°	2593.6	2623.5	2675.0	2730.2	2830.9	2893.5	2943.8	2952.0	2926.6	2901.6	2874.2
26°	2542.5	2574.8	2623.5	2676.6	2785.1	2851.7	2905.7	2910.6	2884.1	2856.2	2830.9
26.5°	2488.9	2523.6	2568.6	2621.0	2738.8	2808.4	2865.2	2870.1	2841.1	2811.6	2785.1
27°	2436.5	2471.7	2512.6	2564.6	2691.0	2762.6	2822.7	2823.9	2796.1	2767.1	2737.6
27.5°	2381.7	2418.5	2452.9	2509.3	2642.7	2717.6	2778.1	2779.3	2750.7	2722.1	2687.7
28°	2327.7	2364.9	2395.6	2455.3	2592.0	2670.5	2729.0	2730.2	2704.9	2675.8	2636.6
28.5°	2270.8	2310.5	2337.9	2401.7	2538.0	2622.6	2677.5	2681.6	2659.9	2629.2	2583.8
29°	2214.4	2254.9	2280.2	2349.4	2484.4	2572.7	2624.7	2630.0	2611.6	2580.5	2529.4
29.5°	2156.7	2196.8	2225.4	2298.7	2429.1	2521.6	2567.8	2577.6	2562.5	2531.0	2472.9
30°	2097.8	2137.1	2171.4	2246.7	2376.0	2468.4	2508.5	2521.6	2511.4	2478.6	2412.8
30.5°	2037.2	2077.7	2117.4	2196.0	2315.4	2412.0	2446.3	2465.1	2459.8	2425.9	2352.6
31°	1978.3	2018.4	2063.8	2141.2	2258.6	2353.9	2386.6	2406.6	2405.4	2372.7	2292.5
31.5°	1919.8	1958.3	2010.2	2087.6	2202.1	2292.5	2323.2	2346.9	2350.6	2315.8	2230.7
32°	1861.7	1899.4	1955.8	2029.9	2149.3	2232.4	2261.8	2286.0	2294.2	2258.6	2171.0
32.5°	1806.5	1840.5	1900.6	1973.0	2091.2	2172.2	2201.3	2226.7	2239.3	2201.3	2111.3
33°	1751.3	1784.4	1845.8	1913.7	2035.2	2109.7	2142.4	2166.9	2181.2	2145.2	2052.0
33.5°	1694.8	1728.4	1789.3	1853.6	1980.0	2046.7	2083.5	2107.2	2124.4	2085.9	1994.3
34°	1639.6	1671.5	1731.2	1792.6	1926.0	1981.2	2025.4	2048.3	2064.7	2025.0	1937.0
34.5°	1583.6	1613.8	1673.2	1734.9	1866.2	1916.2	1967.7	1990.6	2006.2	1966.5	1880.6
35°	1526.7	1555.3	1616.3	1678.1	1808.6	1851.1	1908.8	1933.7	1945.2	1905.9	1823.3
35.5°	1474.3	1500.5	1560.3	1623.3	1748.8	1788.5	1850.7	1877.3	1886.3	1843.3	1766.8
36°	1421.2	1446.9	1505.0	1569.7	1692.4	1726.3	1792.2	1819.6	1823.7	1782.0	1710.4
36.5°	1367.2	1393.8	1467.0	1515.7	1627.8	1665.8	1733.7	1763.6	1762.3	1719.8	1652.7
37°	1313.6	1340.2	1410.5	1453.9	1567.6	1605.7	1673.6	1705.1	1700.2	1659.3	1594.2
37.5°	1260.0	1287.0	1354.5	1402.3	1505.4	1548.0	1613.0	1647.4	1641.3	1598.7	1535.7
38°	1206.4	1233.8	1298.4	1350.4	1446.5	1491.9	1553.3	1588.9	1580.7	1539.0	1476.4
38.5°	1156.1	1184.7	1242.0	1298.8	1384.3	1434.7	1494.8	1530.4	1521.4	1480.1	1418.7
39°	1107.8	1136.4	1190.0	1247.3	1326.7	1379.4	1436.7	1471.9	1463.7	1422.8	1362.3
39.5°	1059.9	1086.9	1138.1	1192.1	1267.3	1323.0	1379.8	1415.0	1406.0	1365.1	1307.0
40°	1013.3	1037.8	1086.5	1136.8	1212.5	1269.4	1323.0	1357.3	1347.1	1308.7	1251.0
40.5°	966.7	992.0	1036.6	1083.7	1154.8	1213.8	1268.2	1300.9	1290.3	1252.2	1199.4
41°	922.1	945.8	986.3	1031.3	1102.1	1161.0	1215.0	1247.3	1233.4	1194.1	1145.0
41.5°	878.7	903.3	937.6	981.0	1048.9	1107.8	1161.4	1192.9	1177.3	1138.9	1093.1
42°	837.0	860.3	890.6	931.9	998.2	1057.1	1109.4	1139.7	1120.9	1084.9	1040.7
42.5°	794.9	818.6	845.2	884.0	948.3	1005.5	1058.3	1085.7	1066.9	1031.7	989.6
43°	754.8	777.7	799.8	836.6	899.6	956.0	1007.6	1034.2	1013.7	981.0	938.9
43.5°	715.9	738.8	757.2	789.1	850.9	907.4	958.1	983.9	961.4	928.6	888.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	606.3	627.5	637.4	654.9	717.1	770.7	816.9	832.1	813.7	784.6	744.1
45.5°	572.7	593.2	600.1	614.0	676.6	726.5	772.4	783.4	767.4	739.6	698.7
46°	539.6	560.0	564.1	573.1	636.5	685.2	730.2	737.6	722.9	694.6	655.4
46.5°	508.1	528.1	528.9	535.1	598.5	645.1	686.9	690.5	679.1	650.9	613.2
47°	476.6	496.2	496.2	499.9	562.1	605.9	645.1	647.2	636.1	610.8	571.9
47.5°	448.4	466.4	464.7	466.4	526.9	568.2	604.2	604.6	594.8	571.5	533.4
48°	420.1	438.1	434.9	435.3	493.4	532.6	565.8	564.5	555.1	530.6	496.6
48.5°	393.1	410.7	407.0	407.4	461.9	498.7	527.3	525.3	517.1	493.8	461.4
49°	366.9	384.1	379.6	381.3	432.0	465.5	490.5	488.4	480.7	459.0	427.5
49.5°	342.4	358.8	354.7	356.3	403.4	434.4	455.7	454.1	445.1	425.0	398.9
50°	318.7	334.2	331.4	333.8	379.2	405.0	422.2	421.4	412.8	396.8	370.6
50.5°	296.2	310.9	309.3	312.1	354.7	379.2	393.9	393.1	384.9	368.6	342.4
51°	274.5	288.4	288.4	292.1	330.5	353.4	365.7	364.9	356.7	339.9	314.2
51.5°	253.6	267.1	268.0	272.5	306.0	328.1	337.5	337.1	328.5	311.7	286.0
52°	234.4	247.1	248.7	254.0	281.9	302.3	309.3	308.9	300.3	283.5	261.8
52.5°	215.6	227.9	230.3	235.6	261.0	276.5	281.0	281.0	272.5	258.1	239.3
53°	198.0	209.0	212.3	218.0	240.5	254.9	258.1	257.7	249.5	236.0	218.9
53.5°	181.2	191.5	195.5	201.3	222.1	234.0	236.9	235.2	228.3	215.6	199.2
54°	165.7	175.1	179.6	184.9	204.1	213.5	216.8	214.8	208.2	196.8	181.6
54.5°	152.2	160.4	164.5	169.8	186.5	194.7	197.6	195.5	189.0	178.4	164.9
55°	139.9	146.5	150.5	155.5	170.6	177.5	179.6	178.4	172.6	162.4	151.0
55.5°	128.0	134.6	138.3	143.2	155.5	161.2	163.2	162.4	157.1	148.5	137.5
56°	115.8	122.7	126.0	130.5	141.5	146.5	148.5	147.7	143.2	135.4	123.5
56.5°	103.5	110.9	113.7	117.8	128.5	133.0	135.0	133.8	129.7	121.1	110.5
57°	91.2	98.6	101.5	105.1	115.0	119.5	121.5	119.9	116.6	108.8	98.6
57.5°	82.2	86.7	89.2	92.5	102.3	106.4	108.0	107.6	103.9	97.0	88.0
58°	74.5	78.1	80.2	82.6	91.2	94.5	96.1	95.7	92.9	86.7	78.5
58.5°	67.5	70.8	72.0	73.6	81.4	84.3	85.5	85.5	83.0	77.7	70.4
59°	61.4	64.2	65.0	66.3	72.4	74.5	76.1	76.1	74.0	70.0	63.4
59.5°	56.0	58.5	58.5	59.7	64.6	66.7	67.9	67.9	66.3	62.6	56.9
60°	51.1	53.2	53.6	54.0	58.1	59.7	60.5	61.0	59.7	56.5	51.5
60.5°	46.6	48.7	48.7	48.7	52.4	53.6	54.4	55.2	54.0	51.5	47.0
61°	42.5	44.6	44.6	44.2	47.5	48.7	49.1	49.9	48.7	46.6	42.5
61.5°	39.3	40.9	40.9	40.5	43.0	44.2	44.6	45.4	44.2	42.5	39.3
62°	36.0	37.6	37.2	37.2	39.3	40.1	40.5	41.3	40.5	38.9	36.4
62.5°	33.5	34.8	34.4	34.0	36.4	37.2	37.2	37.6	36.8	36.0	34.0
63°	30.7	32.3	31.9	31.1	33.5	34.4	34.8	35.2	34.4	33.5	31.1
63.5°	28.2	29.9	29.0	28.6	30.7	31.5	31.9	32.3	31.9	30.7	28.6
64°	26.2	27.4	27.0	26.6	28.2	28.6	29.5	29.9	29.5	28.2	25.8
64.5°	24.1	25.4	25.0	24.5	25.4	25.8	27.0	27.4	27.0	25.4	23.7
65°	22.5	23.7	23.3	22.5	23.3	23.7	24.1	24.5	24.1	23.7	22.1
65.5°	20.9	21.7	21.7	20.9	21.7	22.1	22.5	22.9	22.5	22.1	20.5
66°	19.2	20.5	20.0	19.6	20.0	20.5	20.9	21.3	20.9	20.5	19.2





TEST NUMBER: P776294

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	15.5	16.4	16.0	15.5	16.0	16.4	16.8	16.8	16.8	16.4	15.1
68°	14.3	15.1	15.1	14.7	14.7	15.1	15.5	15.5	15.5	15.1	14.3
68.5°	13.5	14.3	14.3	13.9	13.9	13.9	14.3	14.7	14.3	14.3	13.1
69°	12.7	13.1	13.1	12.7	13.1	13.1	13.5	13.5	13.5	13.1	12.3
69.5°	11.5	12.3	12.3	11.9	12.3	12.3	12.7	12.7	12.7	12.3	11.5
70°	10.6	11.5	11.5	11.0	11.0	11.5	11.9	11.9	11.9	11.5	10.6
70.5°	9.8	10.6	10.6	10.2	10.6	10.6	11.0	11.0	11.0	10.6	9.8
71°	9.4	9.8	9.8	9.4	9.8	9.8	10.2	10.2	10.2	9.8	9.4
71.5°	8.6	9.0	9.0	9.0	9.0	9.0	9.4	9.4	9.4	9.0	8.6
72°	7.8	8.6	8.6	8.2	8.6	8.6	8.6	9.0	8.6	8.6	8.2
72.5°	7.4	7.8	7.8	7.8	7.8	8.2	8.2	8.2	8.2	7.8	7.4
73°	6.5	7.4	7.4	7.0	7.4	7.4	7.8	7.8	7.4	7.4	7.0
73.5°	6.1	6.5	6.5	6.5	7.0	7.0	7.0	7.0	7.0	6.5	6.5
74°	5.7	6.1	6.1	6.1	6.5	6.5	6.5	6.5	6.5	6.1	6.1
74.5°	5.3	5.7	5.7	5.7	5.7	6.1	6.1	6.1	6.1	5.7	5.3
75°	4.9	5.3	5.3	5.3	5.3	5.7	5.7	5.7	5.3	5.3	4.9
75.5°	4.5	4.9	4.9	4.9	4.9	5.3	5.3	5.3	4.9	4.9	4.5
76°	4.1	4.5	4.5	4.5	4.5	4.9	4.9	4.5	4.5	4.5	4.1
76.5°	3.7	4.1	4.1	4.1	4.5	4.5	4.5	4.5	4.1	4.1	4.1
77°	3.3	3.7	3.7	3.7	4.1	4.1	4.1	4.1	4.1	3.7	3.7
77.5°	2.9	3.3	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.3	3.3
78°	2.9	2.9	3.3	3.3	3.3	3.7	3.3	3.3	3.3	3.3	2.9
78.5°	2.5	2.9	2.9	2.9	3.3	3.3	3.3	2.9	2.9	2.9	2.9
79°	2.0	2.5	2.5	2.9	2.9	2.9	2.9	2.9	2.9	2.5	2.5
79.5°	2.0	2.0	2.5	2.5	2.5	2.9	2.5	2.5	2.5	2.0	2.5
80°	1.6	2.0	2.0	2.0	2.5	2.5	2.5	2.0	2.0	2.0	2.0
80.5°	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6
81°	1.2	1.6	1.6	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6
81.5°	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.6
82°	0.8	1.2	1.2	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2
82.5°	0.8	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	1.2
83°	0.4	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8
83.5°	0.4	0.8	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8
84°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8
84.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.8
85°	0.4	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
85.5°	0.0	0.4	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4	0.4
86°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
86.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.4
87°	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776294  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**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: P776294

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3909.6	3909.6	3909.6	3909.6	3909.6	3909.6
0.5°	3908.8	3908.4	3908.8	3908.0	3907.2	3905.1
1°	3908.0	3905.9	3905.1	3903.9	3903.1	3901.9
1.5°	3905.9	3902.7	3900.6	3899.4	3899.0	3897.4
2°	3903.1	3898.6	3896.1	3894.5	3893.7	3892.4
2.5°	3899.0	3893.7	3889.6	3887.1	3886.7	3886.3
3°	3894.9	3887.5	3883.0	3879.8	3878.9	3879.4
3.5°	3890.0	3881.0	3874.9	3871.6	3870.8	3871.2
4°	3883.9	3873.2	3866.3	3861.8	3861.4	3862.6
4.5°	3876.9	3865.0	3856.9	3852.4	3851.1	3853.2
5°	3869.1	3855.6	3846.6	3841.3	3839.7	3842.1
5.5°	3860.1	3845.4	3834.4	3829.4	3828.2	3830.7
6°	3850.7	3834.4	3822.5	3815.9	3815.1	3817.2
6.5°	3840.1	3821.7	3809.4	3802.9	3801.2	3804.1
7°	3828.2	3808.6	3794.7	3787.7	3785.3	3788.9
7.5°	3815.1	3794.3	3779.5	3771.8	3769.3	3773.0
8°	3801.6	3778.7	3763.6	3754.6	3752.1	3755.8
8.5°	3786.5	3761.5	3745.6	3736.6	3733.7	3737.4
9°	3770.5	3743.5	3726.8	3716.5	3713.3	3717.4
9.5°	3752.9	3724.7	3707.1	3694.9	3692.4	3696.9
10°	3734.9	3704.3	3685.0	3673.2	3669.1	3674.4
10.5°	3715.3	3682.2	3662.1	3649.5	3645.8	3649.9
11°	3694.4	3659.7	3638.0	3623.3	3618.4	3625.3
11.5°	3672.8	3636.0	3611.4	3595.5	3591.8	3597.5
12°	3650.7	3610.2	3584.0	3566.8	3562.3	3568.5
12.5°	3626.1	3583.6	3555.4	3537.0	3531.2	3538.6
13°	3601.6	3556.2	3525.9	3505.9	3499.7	3507.9
13.5°	3575.4	3528.4	3496.5	3474.0	3468.2	3475.6
14°	3548.8	3499.3	3464.5	3442.0	3435.1	3442.0
14.5°	3520.2	3469.5	3433.9	3410.1	3402.0	3408.9
15°	3493.2	3439.2	3400.3	3376.2	3367.2	3375.0
15.5°	3463.7	3408.1	3369.2	3343.0	3333.2	3340.6
16°	3434.7	3377.4	3336.1	3308.7	3299.3	3307.0
16.5°	3404.4	3346.7	3305.8	3275.5	3266.1	3272.3
17°	3375.0	3314.0	3272.7	3240.8	3232.2	3239.1
17.5°	3344.3	3283.7	3240.4	3208.5	3197.8	3204.8
18°	3313.2	3251.8	3207.2	3174.9	3164.7	3171.2
18.5°	3282.5	3220.3	3176.5	3142.6	3132.4	3137.3
19°	3252.6	3189.2	3145.5	3112.7	3101.3	3106.2
19.5°	3222.8	3160.2	3115.2	3082.5	3070.2	3074.7
20°	3193.7	3129.5	3084.5	3051.8	3039.5	3045.6
20.5°	3163.0	3098.8	3053.8	3021.5	3008.4	3014.5
21°	3134.8	3067.7	3020.7	2988.0	2977.3	2984.3



TEST NUMBER: P776294

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3041.5	2966.3	2911.1	2878.7	2868.1	2875.5
23°	3010.0	2927.4	2871.0	2835.8	2826.8	2835.8
23.5°	2978.1	2889.0	2828.4	2791.2	2783.0	2791.6
24°	2946.6	2847.2	2783.8	2744.1	2735.1	2744.6
24.5°	2908.6	2804.3	2738.4	2692.6	2684.8	2695.1
25°	2869.3	2759.3	2692.2	2639.4	2634.1	2646.4
25.5°	2826.4	2713.5	2644.3	2584.2	2578.5	2593.6
26°	2782.6	2667.2	2595.2	2528.6	2524.1	2542.5
26.5°	2733.5	2619.4	2543.7	2474.6	2466.4	2488.9
27°	2683.2	2570.7	2491.3	2421.4	2408.3	2436.5
27.5°	2628.4	2518.7	2437.3	2368.2	2350.6	2381.7
28°	2572.3	2465.6	2381.7	2316.7	2294.6	2327.7
28.5°	2512.6	2410.7	2324.8	2265.9	2237.7	2270.8
29°	2450.8	2353.1	2268.0	2214.8	2184.9	2214.4
29.5°	2388.2	2294.2	2210.3	2162.4	2128.9	2156.7
30°	2326.9	2233.2	2153.4	2109.7	2075.7	2097.8
30.5°	2263.5	2172.2	2095.7	2053.6	2022.9	2037.2
31°	2203.7	2110.1	2041.7	1997.2	1968.9	1978.3
31.5°	2145.2	2046.7	1985.3	1938.2	1914.1	1919.8
32°	2087.6	1984.1	1929.7	1877.7	1859.3	1861.7
32.5°	2031.1	1920.7	1873.6	1818.0	1803.2	1806.5
33°	1972.2	1856.8	1815.9	1759.9	1746.8	1751.3
33.5°	1914.9	1792.6	1756.2	1702.2	1690.3	1694.8
34°	1857.2	1732.1	1698.1	1644.9	1633.5	1639.6
34.5°	1799.2	1671.5	1638.0	1587.7	1575.0	1583.6
35°	1739.8	1611.8	1578.3	1534.1	1519.8	1526.7
35.5°	1680.5	1555.8	1517.3	1481.7	1464.9	1474.3
36°	1620.8	1499.7	1450.6	1427.7	1413.4	1421.2
36.5°	1561.5	1444.9	1394.2	1374.1	1361.8	1367.2
37°	1502.2	1390.1	1337.3	1320.1	1310.3	1313.6
37.5°	1444.1	1335.7	1280.8	1266.5	1259.2	1260.0
38°	1387.6	1280.8	1224.0	1212.5	1207.6	1206.4
38.5°	1332.4	1226.4	1167.9	1158.5	1157.3	1156.1
39°	1277.6	1173.3	1116.0	1105.8	1107.4	1107.8
39.5°	1224.4	1120.5	1063.2	1053.0	1055.4	1059.9
40°	1171.2	1069.8	1011.3	1001.0	1005.1	1013.3
40.5°	1119.3	1019.0	961.4	950.3	956.4	966.7
41°	1068.1	968.7	912.7	900.4	909.0	922.1
41.5°	1017.8	919.6	864.4	852.5	862.4	878.7
42°	967.9	873.4	818.6	805.9	816.1	837.0
42.5°	920.0	826.4	774.4	760.1	772.8	794.9
43°	873.0	781.8	731.4	715.5	729.8	754.8
43.5°	826.8	738.0	689.7	671.3	688.5	715.9



TEST NUMBER: P776294

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	695.9	616.5	574.4	552.3	572.3	606.3
45.5°	654.9	578.4	539.6	516.3	536.3	572.7
46°	614.4	542.4	506.0	481.9	501.9	539.6
46.5°	574.8	508.1	473.3	449.6	469.6	508.1
47°	536.7	474.9	443.0	420.5	439.4	476.6
47.5°	499.1	442.2	414.0	393.5	410.3	448.4
48°	463.5	412.4	386.6	367.4	383.7	420.1
48.5°	430.8	384.1	360.4	343.2	358.4	393.1
49°	398.4	356.7	335.0	320.3	334.2	366.9
49.5°	370.6	331.0	311.3	299.9	313.0	342.4
50°	342.8	305.6	288.8	279.8	291.3	318.7
50.5°	315.0	281.9	267.1	260.2	271.6	296.2
51°	287.2	259.8	246.7	241.8	252.4	274.5
51.5°	263.9	238.5	227.5	224.6	234.0	253.6
52°	242.2	218.9	209.0	207.8	216.4	234.4
52.5°	220.9	199.2	191.9	191.5	200.0	215.6
53°	202.1	181.2	175.5	175.5	184.1	198.0
53.5°	184.1	164.9	160.4	161.2	169.0	181.2
54°	167.3	150.1	146.0	147.7	154.6	165.7
54.5°	152.6	137.9	134.2	135.8	143.2	152.2
55°	139.1	125.6	122.3	124.0	130.9	139.9
55.5°	125.6	112.9	110.0	112.1	118.6	128.0
56°	112.1	100.6	98.2	100.2	106.4	115.8
56.5°	100.2	88.4	86.3	88.4	94.1	103.5
57°	89.2	78.5	76.9	79.0	84.3	91.2
57.5°	79.4	70.4	69.1	71.2	76.1	82.2
58°	70.8	63.4	62.2	64.2	69.1	74.5
58.5°	63.8	56.9	56.5	58.1	62.6	67.5
59°	57.3	51.5	51.1	53.2	57.3	61.4
59.5°	52.0	46.6	46.2	48.3	52.0	56.0
60°	47.0	42.5	42.1	44.2	47.9	51.1
60.5°	43.0	38.9	38.5	40.5	43.8	46.6
61°	39.3	35.6	35.2	37.2	40.1	42.5
61.5°	36.4	32.7	32.3	34.4	37.2	39.3
62°	33.5	29.9	29.9	31.5	34.4	36.0
62.5°	31.1	27.4	27.4	29.0	31.5	33.5
63°	28.2	25.4	25.4	27.0	29.0	30.7
63.5°	25.8	23.3	23.7	25.0	27.0	28.2
64°	23.7	21.7	21.7	22.9	25.0	26.2
64.5°	22.1	20.0	20.0	21.3	22.9	24.1
65°	20.5	18.8	18.8	19.6	21.3	22.5
65.5°	18.8	17.2	17.6	18.4	20.0	20.9
66°	17.6	16.0	16.4	17.2	18.4	19.2



TEST NUMBER: P776294

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	13.9	13.1	13.1	13.9	14.7	15.5
68°	13.1	12.3	12.3	13.1	13.9	14.3
68.5°	12.3	11.5	11.5	11.9	12.7	13.5
69°	11.5	10.6	10.6	11.0	11.9	12.7
69.5°	10.6	9.8	9.8	10.2	11.0	11.5
70°	9.8	9.0	9.0	9.8	10.2	10.6
70.5°	9.4	8.6	8.6	9.0	9.4	9.8
71°	8.6	7.8	7.8	8.2	8.6	9.4
71.5°	8.2	7.4	7.4	7.8	8.2	8.6
72°	7.4	7.0	7.0	7.4	7.4	7.8
72.5°	7.0	6.1	6.1	6.5	7.0	7.4
73°	6.5	5.7	5.7	6.1	6.5	6.5
73.5°	6.1	5.3	5.3	5.7	5.7	6.1
74°	5.7	4.9	4.9	5.3	5.3	5.7
74.5°	5.3	4.5	4.5	4.9	4.9	5.3
75°	4.9	4.1	4.1	4.5	4.5	4.9
75.5°	4.5	4.1	4.1	4.1	4.1	4.5
76°	4.1	3.7	3.7	3.7	3.7	4.1
76.5°	3.7	3.3	3.3	3.3	3.3	3.7
77°	3.3	2.9	2.9	2.9	3.3	3.3
77.5°	3.3	2.9	2.9	2.9	2.9	2.9
78°	2.9	2.5	2.5	2.5	2.5	2.9
78.5°	2.5	2.5	2.5	2.5	2.5	2.5
79°	2.5	2.0	2.0	2.0	2.0	2.0
79.5°	2.0	2.0	2.0	2.0	1.6	2.0
80°	2.0	1.6	1.6	1.6	1.6	1.6
80.5°	1.6	1.6	1.6	1.6	1.2	1.6
81°	1.6	1.2	1.2	1.2	1.2	1.2
81.5°	1.2	1.2	1.2	1.2	1.2	1.2
82°	1.2	1.2	1.2	0.8	0.8	0.8
82.5°	1.2	0.8	0.8	0.8	0.8	0.8
83°	0.8	0.8	0.8	0.8	0.8	0.4
83.5°	0.8	0.8	0.8	0.8	0.4	0.4
84°	0.8	0.4	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	0.0	0.0
86°	0.4	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	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: P776294  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-4000lm-5000K

**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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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°	2950.3	2971.6	3002.7	3042.8	3110.7	3157.7	3192.9	3208.0	3205.2	3185.5	3150.8
22°	2915.1	2939.7	2971.2	3012.9	3079.2	3128.3	3162.6	3179.0	3175.7	3155.3	3120.5



44°	677.9	699.9	715.9	743.7	805.1	860.3	909.8	931.9	911.0	878.3	839.4
44.5°	641.9	663.1	675.8	698.7	760.9	813.7	862.8	880.8	861.5	831.7	791.6



66.5°	18.0	18.8	18.8	18.0	18.4	18.8	19.2	19.6	19.2	18.8	17.6
67°	16.8	17.6	17.2	16.8	17.2	17.6	18.0	18.0	18.0	17.6	16.4



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°	3105.0	3035.4	2986.3	2952.4	2943.8	2950.3
22°	3073.0	3001.1	2949.5	2916.8	2907.0	2915.1



44°	782.2	696.3	650.0	630.8	648.8	677.9
44.5°	739.2	655.8	611.2	590.7	610.4	641.9



66.5°	16.4	15.1	15.1	16.0	17.2	18.0
67°	15.1	13.9	14.3	15.1	16.0	16.8

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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)