

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: P776602

Luminaire Tested: HCDJBS4050CSD-HCD4TRH-5000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776602  
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-HCD4TRH-5000lm-3500K  
Description: 4 INCH ROUND MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

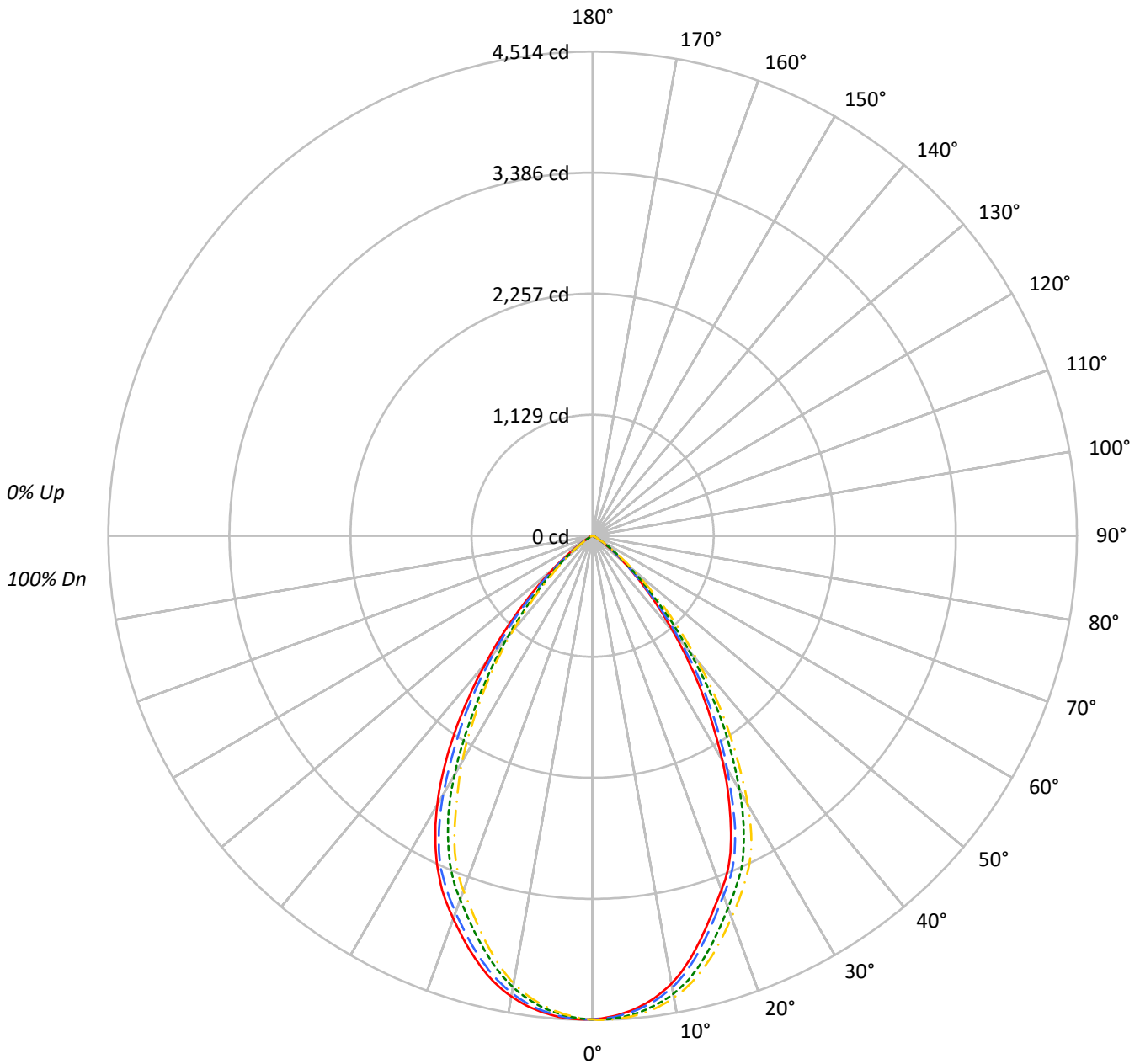
Lumens per Lamp: N/A  
Luminaire Lumens: 5081.5 lumens  
Efficiency: N/A  
Efficacy: 105.9 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 0.98  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	92																			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85																			
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78																			
4	95	87	81	76	93	85	80	75	83	78	75	81	77	74	79	76	73	71																			
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65																			
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60																			
7	80	70	63	58	78	69	63	58	68	62	58	66	61	58	65	61	57	56																			
8	75	65	58	54	74	64	58	54	63	58	54	62	57	53	61	57	53	52																			
9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	58	53	49	48																			
10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	50	46	45																			

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

	0°	90°	180°	270°
0°	567520	567520	567520	567520
5°	559859	565279	566352	561817
10°	541605	554026	557349	546014
15°	507190	528401	537065	516845
20°	470484	494497	508586	483435
25°	423856	460293	474706	441949
30°	351628	398246	420945	374327
35°	270550	320496	344709	285621
40°	192017	229769	255266	202712
45°	124460	147224	167033	126560
50°	71971	85637	93214	69015
55°	35413	43180	43685	31793
60°	14850	16864	17342	12358
65°	7742	8010	8278	6462
70°	4526	4673	5041	3827
75°	2772	2966	2966	2285
80°	1377	2029	1739	1377
85°	722	1300	722	722

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°

Vertical Angle: 45°

Luminance: 170824 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	420.8	8.3
10°-20°	1123.3	22.1
20°-30°	1472.2	29.0
30°-40°	1233.0	24.3
40°-50°	625.2	12.3
50°-60°	170.8	3.4
60°-70°	28.7	0.6
70°-80°	6.7	0.1
80°-90°	0.8	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°	3016.3	59.4
0°-40°	4249.3	83.6
0°-60°	5045.3	99.3
0°-90°	5081.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5081.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4510	4510	4510	4510	4510	
5°	4432	4475	4483	4447	4432	417
15°	3893	4056	4122	3967	3893	1090
25°	3052	3315	3419	3183	3052	1384
35°	1761	2086	2244	1859	1761	1097
45°	699	827	938	711	699	551
55°	161	197	199	145	161	156
65°	26	27	28	22	26	29
75°	6	6	6	5	6	6
85°	0	1	0	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°	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5
0.5°	4504.3	4504.8	4506.7	4510.0	4511.4	4512.8	4513.3	4512.8	4509.1	4508.1	4508.6
1°	4500.6	4501.0	4504.3	4508.1	4511.4	4513.3	4514.3	4513.8	4510.5	4508.6	4508.6
1.5°	4495.4	4497.3	4501.0	4505.8	4510.5	4513.3	4514.3	4514.3	4510.0	4508.1	4506.2
2°	4489.7	4492.5	4496.3	4502.5	4508.1	4511.9	4514.3	4513.8	4509.1	4506.2	4504.8
2.5°	4482.6	4485.9	4491.6	4497.7	4505.3	4510.5	4512.8	4511.9	4507.2	4503.4	4501.5
3°	4474.6	4478.9	4484.5	4492.5	4500.6	4506.7	4510.0	4510.0	4503.9	4500.1	4497.3
3.5°	4465.2	4470.4	4477.4	4485.0	4495.8	4502.9	4506.2	4505.8	4500.6	4495.8	4492.1
4°	4455.3	4460.9	4468.0	4477.0	4490.2	4497.7	4502.5	4501.5	4495.8	4490.7	4486.4
4.5°	4444.4	4450.1	4458.6	4468.5	4483.1	4492.1	4497.7	4496.8	4489.2	4484.1	4478.9
5°	4431.7	4439.2	4447.2	4457.6	4474.6	4485.5	4491.1	4490.2	4483.1	4477.0	4471.3
5.5°	4418.5	4425.5	4435.5	4446.8	4465.6	4477.4	4484.1	4482.6	4475.1	4468.5	4461.9
6°	4402.9	4411.4	4423.2	4435.0	4454.8	4468.5	4476.0	4475.1	4466.6	4459.5	4452.4
6.5°	4387.8	4397.7	4409.0	4422.7	4443.9	4459.0	4467.5	4465.6	4457.2	4448.7	4440.6
7°	4370.3	4380.7	4393.9	4409.0	4431.7	4448.2	4457.2	4456.2	4446.3	4437.8	4428.4
7.5°	4351.9	4362.3	4377.4	4393.9	4418.5	4436.4	4445.4	4444.4	4435.0	4425.1	4414.7
8°	4332.1	4343.9	4360.0	4377.9	4404.3	4423.2	4432.6	4430.7	4422.7	4411.9	4400.1
8.5°	4310.9	4323.1	4340.6	4360.0	4388.7	4408.6	4419.4	4418.5	4408.6	4397.2	4384.0
9°	4287.8	4301.0	4319.4	4341.1	4372.7	4393.5	4404.3	4403.4	4393.9	4381.7	4367.0
9.5°	4264.2	4277.9	4297.7	4320.8	4354.3	4376.5	4388.7	4387.8	4378.8	4365.1	4348.6
10°	4238.2	4253.3	4274.5	4299.1	4335.4	4358.5	4370.3	4370.8	4361.4	4347.7	4329.3
10.5°	4209.9	4225.9	4250.5	4275.5	4314.2	4338.2	4351.9	4353.3	4343.4	4327.9	4309.5
11°	4181.6	4198.1	4222.6	4251.0	4292.0	4317.5	4332.6	4333.1	4323.6	4308.0	4287.3
11.5°	4149.5	4168.4	4193.9	4224.1	4268.9	4295.8	4311.4	4312.8	4303.3	4286.3	4263.7
12°	4116.0	4135.4	4162.7	4195.7	4243.9	4271.2	4288.2	4290.6	4281.6	4263.7	4240.1
12.5°	4081.6	4101.4	4130.2	4164.6	4215.6	4245.8	4265.6	4268.4	4258.5	4239.6	4214.6
13°	4046.2	4066.9	4096.2	4133.9	4186.8	4219.8	4239.2	4242.9	4233.5	4213.7	4187.7
13.5°	4008.9	4029.7	4061.7	4099.0	4156.6	4190.1	4213.2	4217.5	4207.5	4187.3	4160.4
14°	3970.2	3992.8	4024.5	4064.1	4124.5	4160.8	4184.4	4189.1	4179.7	4159.9	4130.2
14.5°	3932.0	3953.2	3986.2	4027.3	4090.5	4129.7	4154.7	4161.8	4152.3	4131.1	4100.9
15°	3892.8	3915.5	3948.0	3991.4	4055.6	4097.6	4124.5	4130.6	4122.1	4100.4	4070.2
15.5°	3853.2	3876.3	3909.3	3953.7	4021.2	4064.1	4093.8	4101.4	4091.9	4070.7	4039.1
16°	3814.5	3837.1	3871.6	3915.5	3985.3	4031.1	4062.2	4070.2	4061.7	4039.1	4007.0
16.5°	3774.4	3798.0	3832.4	3878.7	3949.9	3997.1	4028.2	4040.0	4030.6	4007.9	3974.0
17°	3736.2	3758.3	3793.7	3839.5	3912.2	3962.7	3994.7	4007.0	3998.0	3975.9	3940.0
17.5°	3696.5	3719.6	3754.1	3801.7	3874.9	3926.3	3961.2	3973.0	3965.5	3941.9	3907.0
18°	3657.8	3681.4	3716.3	3764.0	3838.6	3891.4	3926.3	3939.1	3932.0	3908.9	3871.6
18.5°	3618.7	3642.3	3677.2	3725.3	3801.3	3855.5	3891.9	3907.0	3897.5	3875.4	3836.7
19°	3582.8	3605.5	3639.9	3688.0	3764.5	3818.7	3857.0	3870.2	3864.0	3841.4	3802.7
19.5°	3546.5	3569.1	3604.0	3651.2	3729.1	3783.3	3822.0	3836.2	3830.5	3807.9	3769.7
20°	3513.0	3534.2	3568.2	3615.8	3692.3	3747.5	3786.2	3803.2	3797.5	3774.9	3735.7
20.5°	3477.1	3499.3	3533.3	3580.0	3657.4	3711.6	3752.2	3769.2	3764.0	3741.8	3701.7
21°	3442.2	3463.9	3498.8	3544.6	3622.4	3677.2	3717.3	3733.8	3730.5	3708.3	3668.2



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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°	3316.7	3347.3	3388.4	3438.9	3515.3	3572.9	3614.9	3633.8	3627.6	3603.1	3561.1
23°	3270.9	3301.1	3345.5	3400.2	3479.5	3534.7	3580.4	3597.9	3590.4	3561.1	3523.4
23.5°	3219.9	3250.6	3299.7	3356.3	3443.1	3496.9	3543.6	3559.2	3547.4	3519.6	3485.6
24°	3165.7	3198.7	3249.7	3309.6	3406.8	3458.7	3506.4	3520.5	3504.5	3477.6	3447.4
24.5°	3108.6	3142.1	3197.3	3260.1	3362.0	3421.0	3469.6	3482.3	3461.5	3435.6	3409.6
25°	3052.4	3085.5	3143.0	3205.8	3314.8	3383.2	3432.8	3443.6	3418.6	3393.6	3362.9
25.5°	2991.6	3026.0	3085.5	3149.2	3265.2	3337.4	3395.5	3404.9	3375.7	3346.9	3315.3
26°	2932.6	2969.9	3026.0	3087.4	3212.4	3289.3	3351.6	3357.3	3326.6	3294.5	3265.2
26.5°	2870.8	2910.9	2962.8	3023.2	3159.1	3239.3	3304.9	3310.5	3277.0	3243.1	3212.4
27°	2810.4	2851.0	2898.1	2958.1	3103.9	3186.4	3255.8	3257.2	3225.1	3191.6	3157.7
27.5°	2747.1	2789.6	2829.3	2894.4	3048.2	3134.5	3204.4	3205.8	3172.8	3139.7	3100.1
28°	2684.9	2727.8	2763.2	2832.1	2989.7	3080.3	3147.8	3149.2	3119.9	3086.4	3041.1
28.5°	2619.3	2665.0	2696.7	2770.3	2927.4	3025.1	3088.3	3093.0	3068.0	3032.6	2980.2
29°	2554.2	2600.9	2630.1	2709.9	2865.6	2967.5	3027.4	3033.6	3012.3	2976.5	2917.5
29.5°	2487.6	2533.9	2566.9	2651.4	2801.9	2908.5	2961.8	2973.2	2955.7	2919.4	2852.4
30°	2419.7	2465.0	2504.6	2591.4	2740.5	2847.2	2893.4	2908.5	2896.7	2859.0	2783.0
30.5°	2349.8	2396.6	2442.3	2532.9	2670.7	2782.1	2821.7	2843.4	2837.3	2798.1	2713.6
31°	2281.9	2328.1	2380.5	2469.7	2605.1	2715.1	2752.8	2775.9	2774.5	2736.8	2644.3
31.5°	2214.4	2258.8	2318.7	2407.9	2540.0	2644.3	2679.7	2707.0	2711.3	2671.2	2573.0
32°	2147.4	2190.8	2255.9	2341.4	2479.1	2574.9	2608.9	2636.7	2646.2	2605.1	2504.1
32.5°	2083.7	2122.9	2192.2	2275.8	2412.1	2505.6	2539.1	2568.3	2582.9	2539.1	2435.3
33°	2020.0	2058.2	2129.0	2207.3	2347.5	2433.4	2471.1	2499.4	2515.9	2474.4	2366.8
33.5°	1954.9	1993.6	2063.9	2138.0	2283.8	2360.7	2403.2	2430.5	2450.4	2406.0	2300.3
34°	1891.2	1928.0	1996.9	2067.7	2221.5	2285.2	2336.2	2362.6	2381.5	2335.7	2234.2
34.5°	1826.6	1861.5	1929.9	2001.1	2152.6	2210.2	2269.6	2296.1	2314.0	2268.2	2169.1
35°	1761.0	1794.0	1864.3	1935.6	2086.1	2135.2	2201.7	2230.5	2243.7	2198.4	2103.1
35.5°	1700.6	1730.8	1799.7	1872.3	2017.2	2063.0	2134.7	2165.3	2175.7	2126.2	2037.9
36°	1639.2	1669.0	1736.0	1810.5	1952.1	1991.2	2067.2	2098.8	2103.5	2055.4	1972.8
36.5°	1576.9	1607.6	1692.1	1748.2	1877.5	1921.4	1999.7	2034.2	2032.8	1983.7	1906.3
37°	1515.1	1545.8	1627.0	1677.0	1808.2	1852.0	1930.4	1966.7	1961.0	1913.8	1838.8
37.5°	1453.3	1484.5	1562.3	1617.5	1736.4	1785.5	1860.5	1900.2	1893.1	1844.0	1771.3
38°	1391.5	1423.1	1497.7	1557.6	1668.5	1720.9	1791.6	1832.7	1823.3	1775.1	1702.9
38.5°	1333.5	1366.5	1432.6	1498.1	1596.8	1654.8	1724.2	1765.2	1754.8	1707.2	1636.4
39°	1277.8	1310.8	1372.6	1438.7	1530.2	1591.1	1657.2	1697.7	1688.3	1641.1	1571.3
39.5°	1222.6	1253.7	1312.7	1375.0	1461.8	1526.0	1591.6	1632.2	1621.8	1574.6	1507.6
40°	1168.8	1197.1	1253.3	1311.3	1398.6	1464.2	1526.0	1565.6	1553.8	1509.5	1442.9
40.5°	1115.0	1144.3	1195.7	1249.9	1332.1	1400.0	1462.8	1500.5	1488.2	1444.4	1383.5
41°	1063.6	1090.9	1137.6	1189.6	1271.2	1339.1	1401.4	1438.7	1422.6	1377.3	1320.7
41.5°	1013.5	1041.9	1081.5	1131.5	1209.8	1277.8	1339.6	1375.9	1358.0	1313.6	1260.8
42°	965.4	992.3	1027.2	1074.9	1151.3	1219.3	1279.7	1314.6	1292.9	1251.4	1200.4
42.5°	916.8	944.2	974.9	1019.7	1093.8	1159.8	1220.7	1252.3	1230.6	1190.0	1141.4
43°	870.6	897.0	922.5	964.9	1037.6	1102.7	1162.2	1192.9	1169.3	1131.5	1082.9
43.5°	825.7	852.2	873.4	910.2	981.5	1046.6	1105.1	1134.8	1108.9	1071.1	1025.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	699.3	723.8	735.2	755.4	827.2	889.0	942.3	959.8	938.5	905.0	858.3
45.5°	660.6	684.2	692.2	708.3	780.5	838.0	890.9	903.6	885.2	853.1	805.9
46°	622.4	646.0	650.7	661.1	734.2	790.4	842.3	850.8	833.8	801.2	755.9
46.5°	586.0	609.2	610.1	617.2	690.3	744.1	792.2	796.5	783.3	750.7	707.3
47°	549.7	572.4	572.4	576.6	648.3	698.8	744.1	746.5	733.7	704.5	659.7
47.5°	517.2	537.9	536.0	537.9	607.8	655.4	696.9	697.4	686.1	659.2	615.3
48°	484.6	505.4	501.6	502.1	569.1	614.4	652.6	651.2	640.3	612.0	572.8
48.5°	453.5	473.7	469.5	470.0	532.7	575.2	608.2	605.9	596.4	569.5	532.3
49°	423.3	443.1	437.9	439.8	498.3	537.0	565.8	563.4	554.4	529.4	493.1
49.5°	394.9	413.8	409.1	411.0	465.3	501.1	525.6	523.8	513.4	490.3	460.1
50°	367.6	385.5	382.2	385.0	437.4	467.1	487.0	486.0	476.1	457.7	427.5
50.5°	341.6	358.6	356.7	360.0	409.1	437.4	454.4	453.5	444.0	425.1	394.9
51°	316.6	332.7	332.7	336.9	381.3	407.7	421.8	420.9	411.5	392.1	362.4
51.5°	292.6	308.1	309.1	314.3	352.9	378.4	389.3	388.8	378.9	359.6	329.8
52°	270.4	285.0	286.9	293.0	325.1	348.7	356.7	356.3	346.3	327.0	302.0
52.5°	248.7	262.8	265.7	271.8	301.0	319.0	324.2	324.2	314.3	297.7	276.0
53°	228.4	241.1	244.9	251.5	277.5	294.0	297.7	297.3	287.8	272.3	252.4
53.5°	209.0	220.8	225.5	232.2	256.2	269.9	273.2	271.3	263.3	248.7	229.8
54°	191.1	202.0	207.1	213.3	235.5	246.3	250.1	247.7	240.2	227.0	209.5
54.5°	175.5	185.0	189.7	195.8	215.2	224.6	227.9	225.5	218.0	205.7	190.2
55°	161.4	168.9	173.6	179.3	196.8	204.8	207.1	205.7	199.1	187.3	174.1
55.5°	147.7	155.2	159.5	165.1	179.3	185.9	188.3	187.3	181.2	171.3	158.5
56°	133.5	141.6	145.3	150.5	163.3	168.9	171.3	170.3	165.1	156.2	142.5
56.5°	119.4	127.9	131.2	135.9	148.2	153.4	155.7	154.3	149.6	139.7	127.4
57°	105.2	113.7	117.0	121.3	132.6	137.8	140.1	138.3	134.5	125.5	113.7
57.5°	94.8	100.0	102.9	106.6	118.0	122.7	124.6	124.1	119.9	111.8	101.4
58°	85.9	90.1	92.5	95.3	105.2	109.0	110.9	110.4	107.1	100.0	90.6
58.5°	77.9	81.6	83.0	84.9	93.9	97.2	98.6	98.6	95.8	89.7	81.2
59°	70.8	74.1	75.0	76.4	83.5	85.9	87.8	87.8	85.4	80.7	73.1
59.5°	64.6	67.5	67.5	68.9	74.6	76.9	78.3	78.3	76.4	72.2	65.6
60°	59.0	61.3	61.8	62.3	67.0	68.9	69.8	70.3	68.9	65.1	59.5
60.5°	53.8	56.2	56.2	56.2	60.4	61.8	62.8	63.7	62.3	59.5	54.3
61°	49.1	51.4	51.4	51.0	54.7	56.2	56.6	57.6	56.2	53.8	49.1
61.5°	45.3	47.2	47.2	46.7	49.5	51.0	51.4	52.4	51.0	49.1	45.3
62°	41.5	43.4	42.9	42.9	45.3	46.2	46.7	47.7	46.7	44.8	42.0
62.5°	38.7	40.1	39.6	39.2	42.0	42.9	42.9	43.4	42.5	41.5	39.2
63°	35.4	37.3	36.8	35.9	38.7	39.6	40.1	40.6	39.6	38.7	35.9
63.5°	32.6	34.4	33.5	33.0	35.4	36.3	36.8	37.3	36.8	35.4	33.0
64°	30.2	31.6	31.1	30.7	32.6	33.0	34.0	34.4	34.0	32.6	29.7
64.5°	27.8	29.3	28.8	28.3	29.3	29.7	31.1	31.6	31.1	29.3	27.4
65°	26.0	27.4	26.9	26.0	26.9	27.4	27.8	28.3	27.8	27.4	25.5
65.5°	24.1	25.0	25.0	24.1	25.0	25.5	26.0	26.4	26.0	25.5	23.6
66°	22.2	23.6	23.1	22.6	23.1	23.6	24.1	24.5	24.1	23.6	22.2





TEST NUMBER: P776602

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	17.9	18.9	18.4	17.9	18.4	18.9	19.3	19.3	19.3	18.9	17.5
68°	16.5	17.5	17.5	17.0	17.0	17.5	17.9	17.9	17.9	17.5	16.5
68.5°	15.6	16.5	16.5	16.0	16.0	16.0	16.5	17.0	16.5	16.5	15.1
69°	14.6	15.1	15.1	14.6	15.1	15.1	15.6	15.6	15.6	15.1	14.2
69.5°	13.2	14.2	14.2	13.7	14.2	14.2	14.6	14.6	14.6	14.2	13.2
70°	12.3	13.2	13.2	12.7	12.7	13.2	13.7	13.7	13.7	13.2	12.3
70.5°	11.3	12.3	12.3	11.8	12.3	12.3	12.7	12.7	12.7	12.3	11.3
71°	10.9	11.3	11.3	10.9	11.3	11.3	11.8	11.8	11.8	11.3	10.9
71.5°	9.9	10.4	10.4	10.4	10.4	10.4	10.9	10.9	10.9	10.4	9.9
72°	9.0	9.9	9.9	9.4	9.9	9.9	9.9	10.4	9.9	9.9	9.4
72.5°	8.5	9.0	9.0	9.0	9.0	9.4	9.4	9.4	9.4	9.0	8.5
73°	7.5	8.5	8.5	8.0	8.5	8.5	9.0	9.0	8.5	8.5	8.0
73.5°	7.1	7.5	7.5	7.5	8.0	8.0	8.0	8.0	8.0	7.5	7.5
74°	6.6	7.1	7.1	7.1	7.5	7.5	7.5	7.5	7.5	7.1	7.1
74.5°	6.1	6.6	6.6	6.6	6.6	7.1	7.1	7.1	7.1	6.6	6.1
75°	5.7	6.1	6.1	6.1	6.1	6.6	6.6	6.6	6.1	6.1	5.7
75.5°	5.2	5.7	5.7	5.7	5.7	6.1	6.1	6.1	5.7	5.7	5.2
76°	4.7	5.2	5.2	5.2	5.2	5.7	5.7	5.2	5.2	5.2	4.7
76.5°	4.2	4.7	4.7	4.7	5.2	5.2	5.2	5.2	4.7	4.7	4.7
77°	3.8	4.2	4.2	4.2	4.7	4.7	4.7	4.7	4.7	4.2	4.2
77.5°	3.3	3.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	3.8	3.8
78°	3.3	3.3	3.8	3.8	3.8	4.2	3.8	3.8	3.8	3.8	3.3
78.5°	2.8	3.3	3.3	3.3	3.8	3.8	3.8	3.3	3.3	3.3	3.3
79°	2.4	2.8	2.8	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8
79.5°	2.4	2.4	2.8	2.8	2.8	3.3	2.8	2.8	2.8	2.4	2.8
80°	1.9	2.4	2.4	2.4	2.8	2.8	2.8	2.4	2.4	2.4	2.4
80.5°	1.9	1.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.9	1.9
81°	1.4	1.9	1.9	2.4	2.4	2.4	2.4	1.9	1.9	1.9	1.9
81.5°	1.4	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.9
82°	0.9	1.4	1.4	1.9	1.9	1.9	1.9	1.4	1.4	1.4	1.4
82.5°	0.9	0.9	1.4	1.4	1.4	1.9	1.4	1.4	1.4	0.9	1.4
83°	0.5	0.9	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	0.9
83.5°	0.5	0.9	0.9	1.4	1.4	1.4	1.4	0.9	0.9	0.9	0.9
84°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9
84.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.9
85°	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
85.5°	0.0	0.5	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5	0.5
86°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
86.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.5
87°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	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: P776602  
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-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: P776602

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4509.5	4509.5	4509.5	4509.5	4509.5	4509.5
0.5°	4508.6	4508.1	4508.6	4507.6	4506.7	4504.3
1°	4507.6	4505.3	4504.3	4502.9	4502.0	4500.6
1.5°	4505.3	4501.5	4499.2	4497.7	4497.3	4495.4
2°	4502.0	4496.8	4494.0	4492.1	4491.1	4489.7
2.5°	4497.3	4491.1	4486.4	4483.6	4483.1	4482.6
3°	4492.5	4484.1	4478.9	4475.1	4474.1	4474.6
3.5°	4486.9	4476.5	4469.4	4465.6	4464.7	4465.2
4°	4479.8	4467.5	4459.5	4454.3	4453.9	4455.3
4.5°	4471.8	4458.1	4448.7	4443.5	4442.1	4444.4
5°	4462.8	4447.2	4436.9	4430.7	4428.8	4431.7
5.5°	4452.4	4435.5	4422.7	4417.0	4415.6	4418.5
6°	4441.6	4422.7	4409.0	4401.5	4400.5	4402.9
6.5°	4429.3	4408.1	4393.9	4386.4	4384.5	4387.8
7°	4415.6	4393.0	4376.9	4368.9	4366.1	4370.3
7.5°	4400.5	4376.5	4359.5	4350.5	4347.7	4351.9
8°	4385.0	4358.5	4341.1	4330.7	4327.9	4332.1
8.5°	4367.5	4338.7	4320.3	4309.9	4306.6	4310.9
9°	4349.1	4318.0	4298.6	4286.8	4283.0	4287.8
9.5°	4328.8	4296.3	4276.0	4261.8	4259.0	4264.2
10°	4308.0	4272.7	4250.5	4236.8	4232.1	4238.2
10.5°	4285.4	4247.2	4224.1	4209.4	4205.2	4209.9
11°	4261.3	4221.2	4196.2	4179.2	4173.6	4181.6
11.5°	4236.3	4193.9	4165.5	4147.1	4142.9	4149.5
12°	4210.8	4164.1	4133.9	4114.1	4108.9	4116.0
12.5°	4182.5	4133.5	4100.9	4079.7	4073.1	4081.6
13°	4154.2	4101.8	4066.9	4043.8	4036.7	4046.2
13.5°	4124.0	4069.8	4033.0	4007.0	4000.4	4008.9
14°	4093.4	4036.3	3996.2	3970.2	3962.2	3970.2
14.5°	4060.3	4001.8	3960.8	3933.4	3924.0	3932.0
15°	4029.2	3966.9	3922.1	3894.2	3883.9	3892.8
15.5°	3995.2	3931.0	3886.2	3856.0	3844.7	3853.2
16°	3961.7	3895.6	3848.0	3816.4	3805.5	3814.5
16.5°	3926.8	3860.3	3813.1	3778.2	3767.3	3774.4
17°	3892.8	3822.5	3774.9	3738.0	3728.1	3736.2
17.5°	3857.4	3787.6	3737.6	3700.8	3688.5	3696.5
18°	3821.6	3750.8	3699.4	3662.1	3650.3	3657.8
18.5°	3786.2	3714.5	3664.0	3624.8	3613.0	3618.7
19°	3751.7	3678.6	3628.1	3590.4	3577.1	3582.8
19.5°	3717.3	3645.1	3593.2	3555.4	3541.3	3546.5
20°	3683.8	3609.7	3557.8	3520.0	3505.9	3513.0
20.5°	3648.4	3574.3	3522.4	3485.1	3470.0	3477.1
21°	3615.8	3538.5	3484.2	3446.4	3434.2	3442.2

TEST NUMBER: P776602

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3508.3	3421.4	3357.7	3320.5	3308.2	3316.7
23°	3471.9	3376.6	3311.5	3270.9	3260.5	3270.9
23.5°	3435.1	3332.3	3262.4	3219.5	3210.0	3219.9
24°	3398.8	3284.1	3211.0	3165.2	3154.8	3165.7
24.5°	3354.9	3234.6	3158.6	3105.8	3096.8	3108.6
25°	3309.6	3182.7	3105.3	3044.4	3038.3	3052.4
25.5°	3260.1	3129.8	3050.1	2980.7	2974.1	2991.6
26°	3209.6	3076.5	2993.5	2916.5	2911.4	2932.6
26.5°	3152.9	3021.3	2934.0	2854.3	2844.8	2870.8
27°	3094.9	2965.1	2873.6	2792.9	2777.8	2810.4
27.5°	3031.7	2905.2	2811.3	2731.6	2711.3	2747.1
28°	2967.0	2843.9	2747.1	2672.1	2646.6	2684.9
28.5°	2898.1	2780.7	2681.6	2613.6	2581.1	2619.3
29°	2826.9	2714.1	2616.0	2554.6	2520.2	2554.2
29.5°	2754.7	2646.2	2549.4	2494.2	2455.5	2487.6
30°	2683.9	2575.9	2483.9	2433.4	2394.2	2419.7
30.5°	2610.8	2505.6	2417.3	2368.7	2333.3	2349.8
31°	2541.9	2433.8	2355.0	2303.6	2271.0	2281.9
31.5°	2474.4	2360.7	2289.9	2235.7	2207.8	2214.4
32°	2407.9	2288.5	2225.7	2165.8	2144.6	2147.4
32.5°	2342.8	2215.4	2161.1	2096.9	2079.9	2083.7
33°	2274.8	2141.8	2094.6	2029.9	2014.8	2020.0
33.5°	2208.8	2067.7	2025.7	1963.4	1949.7	1954.9
34°	2142.2	1997.8	1958.7	1897.3	1884.1	1891.2
34.5°	2075.2	1928.0	1889.3	1831.3	1816.6	1826.6
35°	2006.8	1859.1	1820.4	1769.5	1752.9	1761.0
35.5°	1938.4	1794.5	1750.1	1709.1	1689.7	1700.6
36°	1869.5	1729.8	1673.2	1646.8	1630.3	1639.2
36.5°	1801.1	1666.6	1608.1	1585.0	1570.8	1576.9
37°	1732.7	1603.4	1542.5	1522.7	1511.4	1515.1
37.5°	1665.7	1540.6	1477.4	1460.9	1452.4	1453.3
38°	1600.5	1477.4	1411.8	1398.6	1392.9	1391.5
38.5°	1536.8	1414.6	1347.2	1336.3	1334.9	1333.5
39°	1473.6	1353.3	1287.2	1275.4	1277.3	1277.8
39.5°	1412.3	1292.4	1226.4	1214.6	1217.4	1222.6
40°	1350.9	1233.9	1166.4	1154.6	1159.4	1168.8
40.5°	1291.0	1175.4	1108.9	1096.1	1103.2	1115.0
41°	1232.0	1117.4	1052.7	1038.6	1048.5	1063.6
41.5°	1174.0	1060.7	997.0	983.3	994.7	1013.5
42°	1116.4	1007.4	944.2	929.6	941.4	965.4
42.5°	1061.2	953.2	893.2	876.7	891.3	916.8
43°	1006.9	901.7	843.7	825.3	841.8	870.6
43.5°	953.6	851.2	795.6	774.3	794.1	825.7



TEST NUMBER: P776602

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	802.6	711.1	662.5	637.0	660.1	699.3
45.5°	755.4	667.2	622.4	595.5	618.6	660.6
46°	708.7	625.7	583.7	555.8	579.0	622.4
46.5°	663.0	586.0	545.9	518.6	541.7	586.0
47°	619.1	547.8	511.0	485.1	506.8	549.7
47.5°	575.7	510.1	477.5	453.9	473.3	517.2
48°	534.6	475.6	445.9	423.7	442.6	484.6
48.5°	496.9	443.1	415.7	395.9	413.3	453.5
49°	459.6	411.5	386.5	369.5	385.5	423.3
49.5°	427.5	381.7	359.1	345.9	361.0	394.9
50°	395.4	352.5	333.1	322.7	336.0	367.6
50.5°	363.3	325.1	308.1	300.1	313.3	341.6
51°	331.2	299.6	284.5	278.9	291.1	316.6
51.5°	304.3	275.1	262.4	259.0	269.9	292.6
52°	279.3	252.4	241.1	239.7	249.6	270.4
52.5°	254.8	229.8	221.3	220.8	230.7	248.7
53°	233.1	209.0	202.4	202.4	212.3	228.4
53.5°	212.3	190.2	185.0	185.9	194.9	209.0
54°	193.0	173.2	168.5	170.3	178.4	191.1
54.5°	176.0	159.0	154.8	156.7	165.1	175.5
55°	160.4	144.9	141.1	143.0	151.0	161.4
55.5°	144.9	130.2	126.9	129.3	136.8	147.7
56°	129.3	116.1	113.2	115.6	122.7	133.5
56.5°	115.6	101.9	99.6	101.9	108.5	119.4
57°	102.9	90.6	88.7	91.1	97.2	105.2
57.5°	91.5	81.2	79.7	82.1	87.8	94.8
58°	81.6	73.1	71.7	74.1	79.7	85.9
58.5°	73.6	65.6	65.1	67.0	72.2	77.9
59°	66.1	59.5	59.0	61.3	66.1	70.8
59.5°	59.9	53.8	53.3	55.7	59.9	64.6
60°	54.3	49.1	48.6	51.0	55.2	59.0
60.5°	49.5	44.8	44.4	46.7	50.5	53.8
61°	45.3	41.1	40.6	42.9	46.2	49.1
61.5°	42.0	37.7	37.3	39.6	42.9	45.3
62°	38.7	34.4	34.4	36.3	39.6	41.5
62.5°	35.9	31.6	31.6	33.5	36.3	38.7
63°	32.6	29.3	29.3	31.1	33.5	35.4
63.5°	29.7	26.9	27.4	28.8	31.1	32.6
64°	27.4	25.0	25.0	26.4	28.8	30.2
64.5°	25.5	23.1	23.1	24.5	26.4	27.8
65°	23.6	21.7	21.7	22.6	24.5	26.0
65.5°	21.7	19.8	20.3	21.2	23.1	24.1
66°	20.3	18.4	18.9	19.8	21.2	22.2



TEST NUMBER: P776602

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-5000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	16.0	15.1	15.1	16.0	17.0	17.9
68°	15.1	14.2	14.2	15.1	16.0	16.5
68.5°	14.2	13.2	13.2	13.7	14.6	15.6
69°	13.2	12.3	12.3	12.7	13.7	14.6
69.5°	12.3	11.3	11.3	11.8	12.7	13.2
70°	11.3	10.4	10.4	11.3	11.8	12.3
70.5°	10.9	9.9	9.9	10.4	10.9	11.3
71°	9.9	9.0	9.0	9.4	9.9	10.9
71.5°	9.4	8.5	8.5	9.0	9.4	9.9
72°	8.5	8.0	8.0	8.5	8.5	9.0
72.5°	8.0	7.1	7.1	7.5	8.0	8.5
73°	7.5	6.6	6.6	7.1	7.5	7.5
73.5°	7.1	6.1	6.1	6.6	6.6	7.1
74°	6.6	5.7	5.7	6.1	6.1	6.6
74.5°	6.1	5.2	5.2	5.7	5.7	6.1
75°	5.7	4.7	4.7	5.2	5.2	5.7
75.5°	5.2	4.7	4.7	4.7	4.7	5.2
76°	4.7	4.2	4.2	4.2	4.2	4.7
76.5°	4.2	3.8	3.8	3.8	3.8	4.2
77°	3.8	3.3	3.3	3.3	3.8	3.8
77.5°	3.8	3.3	3.3	3.3	3.3	3.3
78°	3.3	2.8	2.8	2.8	2.8	3.3
78.5°	2.8	2.8	2.8	2.8	2.8	2.8
79°	2.8	2.4	2.4	2.4	2.4	2.4
79.5°	2.4	2.4	2.4	2.4	1.9	2.4
80°	2.4	1.9	1.9	1.9	1.9	1.9
80.5°	1.9	1.9	1.9	1.9	1.4	1.9
81°	1.9	1.4	1.4	1.4	1.4	1.4
81.5°	1.4	1.4	1.4	1.4	1.4	1.4
82°	1.4	1.4	1.4	0.9	0.9	0.9
82.5°	1.4	0.9	0.9	0.9	0.9	0.9
83°	0.9	0.9	0.9	0.9	0.9	0.5
83.5°	0.9	0.9	0.9	0.9	0.5	0.5
84°	0.9	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.5
85°	0.5	0.5	0.5	0.5	0.5	0.5
85.5°	0.5	0.5	0.5	0.5	0.0	0.0
86°	0.5	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: P776602  
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRH-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

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9



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Peachtree City, GA 30269

Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	3403.0	3427.6	3463.4	3509.7	3588.0	3642.3	3682.8	3700.3	3697.0	3674.3	3634.2
22°	3362.4	3390.8	3427.1	3475.2	3551.7	3608.3	3647.9	3666.8	3663.0	3639.4	3599.3



44°	781.9	807.3	825.7	857.8	928.6	992.3	1049.4	1074.9	1050.8	1013.1	968.2
44.5°	740.3	764.9	779.5	805.9	877.7	938.5	995.1	1015.9	993.7	959.3	913.0



66.5°	20.8	21.7	21.7	20.8	21.2	21.7	22.2	22.6	22.2	21.7	20.3
67°	19.3	20.3	19.8	19.3	19.8	20.3	20.8	20.8	20.8	20.3	18.9



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°	3581.4	3501.2	3444.6	3405.4	3395.5	3403.0
22°	3544.6	3461.5	3402.1	3364.3	3353.0	3362.4



44°	902.2	803.1	749.8	727.6	748.4	781.9
44.5°	852.6	756.4	705.0	681.4	704.0	740.3

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66.5°	18.9	17.5	17.5	18.4	19.8	20.8
67°	17.5	16.0	16.5	17.5	18.4	19.3

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Peachtree City, GA 30269

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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)