

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: P776310

Luminaire Tested: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776310
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-HCD4TSQC-4000lm-2700K
Description: 4 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

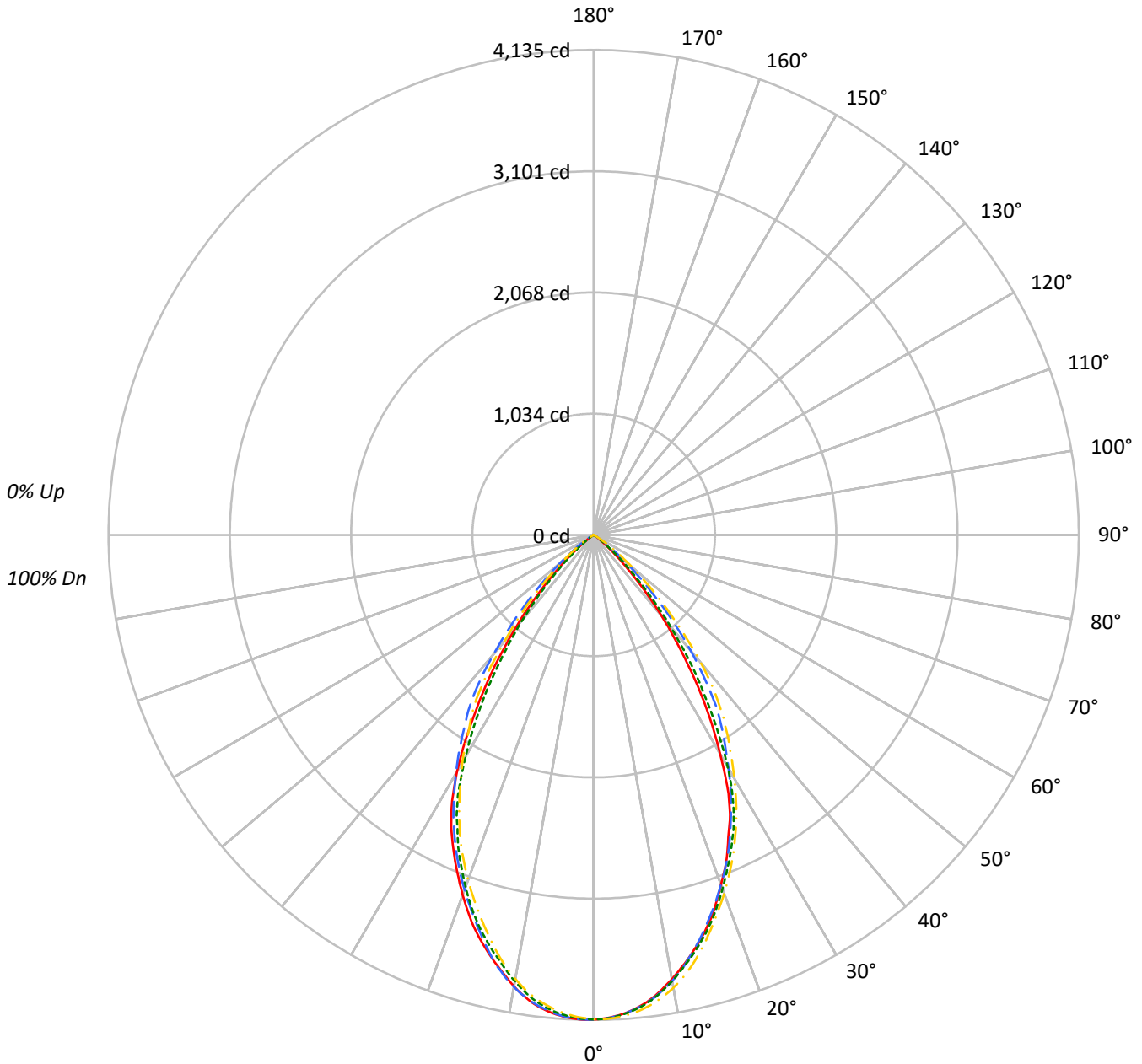
Lumens per Lamp: N/A
Luminaire Lumens: 4273.6 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.93 / 0.98
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93					93			
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86					86			
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79					79			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73					73			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	75	72	69	67					67			
6	85	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62					62			
7	81	71	65	60	79	70	64	60	69	64	60	68	63	59	67	62	59	57					57			
8	77	66	60	56	75	66	60	56	65	59	55	64	59	55	63	58	55	53					53			
9	73	62	56	52	71	62	56	52	61	55	52	60	55	51	59	55	51	50					50			
10	69	59	53	48	68	58	52	48	57	52	48	57	52	48	56	51	48	47					47			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	408367	408367	408367	408367
5°	402465	403150	405848	403834
10°	385921	387537	392355	387969
15°	363646	365570	370799	364629
20°	333943	337772	343473	335795
25°	298465	306459	311280	299632
30°	246311	260943	265850	249118
35°	181237	196007	199759	185497
40°	115972	131184	133752	120578
45°	58653	71751	73960	63001
50°	20605	27448	29217	23373
55°	3843	4963	5618	5566
60°	1443	1364	1206	1661
65°	1169	1076	982	1263
70°	896	896	780	1011
75°	726	726	573	878
80°	455	455	455	683
85°	454	454	0	454

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 119194 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	382.4	8.9
10°-20°	1000.4	23.4
20°-30°	1270.4	29.7
30°-40°	1050.6	24.6
40°-50°	480.8	11.2
50°-60°	80.8	1.9
60°-70°	5.7	0.1
70°-80°	2.2	0.1
80°-90°	0.4	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°	2653.3	62.1
0°-40°	3703.8	86.7
0°-60°	4265.4	99.8
0°-90°	4273.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4273.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4132	4132	4132	4132	4132	
5°	4056	4063	4090	4070	4056	380
15°	3554	3572	3624	3563	3554	993
25°	2737	2810	2854	2747	2737	1243
35°	1502	1624	1656	1537	1502	933
45°	420	513	529	451	420	341
55°	22	29	33	32	22	36
65°	5	5	4	5	5	5
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	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°	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5
0.5°	4130.8	4131.1	4131.1	4129.2	4130.8	4130.8	4130.8	4132.3	4134.6	4135.0	4134.2
1°	4126.5	4127.7	4128.1	4126.9	4128.8	4129.6	4130.8	4132.3	4134.6	4134.6	4133.4
1.5°	4122.3	4123.1	4123.8	4123.5	4125.0	4126.5	4129.2	4130.8	4133.4	4134.2	4131.5
2°	4115.8	4116.9	4118.1	4117.7	4120.0	4123.5	4126.5	4128.1	4131.1	4132.3	4129.2
2.5°	4108.5	4109.6	4111.2	4111.2	4113.5	4118.1	4123.5	4123.8	4126.9	4128.1	4126.1
3°	4101.2	4102.0	4102.7	4103.5	4106.2	4111.6	4118.1	4118.9	4122.3	4122.7	4120.0
3.5°	4092.0	4092.4	4093.5	4094.7	4097.4	4104.6	4112.3	4111.2	4116.2	4116.5	4113.1
4°	4082.0	4082.0	4082.8	4084.7	4087.4	4095.8	4104.3	4103.9	4108.9	4108.9	4105.0
4.5°	4069.7	4070.5	4072.0	4073.9	4076.6	4086.6	4095.4	4094.7	4100.8	4100.4	4095.8
5°	4056.3	4056.7	4059.3	4061.6	4063.2	4075.5	4085.8	4084.7	4090.4	4091.2	4085.1
5.5°	4041.3	4042.1	4045.5	4048.2	4050.1	4062.8	4075.1	4073.5	4079.3	4080.1	4073.9
6°	4024.8	4025.6	4030.5	4032.8	4034.8	4049.7	4062.0	4060.5	4067.0	4067.4	4060.9
6.5°	4007.5	4007.9	4013.7	4017.1	4018.3	4034.4	4049.0	4046.7	4054.0	4054.0	4048.2
7°	3987.9	3988.7	3995.6	3999.8	4000.6	4017.5	4034.8	4031.3	4038.6	4039.0	4032.8
7.5°	3968.0	3968.0	3976.8	3981.0	3980.3	3999.4	4018.6	4015.2	4020.9	4022.9	4016.7
8°	3946.1	3946.5	3954.9	3961.1	3959.1	3979.5	4001.4	3996.4	4001.8	4003.7	3998.7
8.5°	3922.7	3924.2	3933.8	3939.2	3935.7	3958.4	3982.9	3976.8	3981.0	3984.9	3979.1
9°	3896.2	3899.2	3910.0	3915.4	3911.9	3936.1	3963.0	3954.9	3958.0	3963.0	3959.5
9.5°	3870.1	3873.5	3885.8	3891.2	3887.0	3912.3	3942.2	3931.5	3934.6	3939.9	3937.6
10°	3845.1	3846.6	3859.7	3865.8	3861.2	3888.5	3920.0	3907.3	3909.2	3915.4	3913.1
10.5°	3817.5	3819.4	3833.2	3838.6	3834.4	3863.9	3895.8	3880.8	3882.7	3889.6	3888.1
11°	3790.2	3792.1	3805.2	3811.3	3807.5	3836.3	3869.3	3853.9	3854.3	3863.5	3862.4
11.5°	3761.8	3764.1	3774.8	3782.1	3778.7	3809.4	3844.0	3824.8	3824.8	3835.1	3834.7
12°	3734.5	3735.3	3744.1	3751.8	3750.3	3781.8	3815.9	3795.6	3796.3	3804.8	3804.0
12.5°	3706.1	3706.1	3710.3	3722.2	3722.2	3753.3	3785.6	3764.9	3769.5	3775.6	3775.2
13°	3676.2	3676.9	3678.5	3691.1	3694.2	3724.9	3754.9	3733.8	3741.8	3746.4	3741.8
13.5°	3646.2	3646.2	3645.5	3659.3	3664.3	3696.1	3724.9	3703.4	3712.6	3715.0	3707.7
14°	3615.9	3615.1	3610.9	3628.2	3633.9	3666.6	3689.6	3672.7	3683.1	3684.2	3672.0
14.5°	3584.8	3583.6	3576.4	3595.9	3603.6	3636.6	3655.8	3641.6	3653.5	3653.9	3636.6
15°	3553.7	3552.2	3542.6	3564.4	3572.5	3605.9	3621.7	3610.5	3623.6	3622.8	3597.9
15.5°	3522.2	3519.5	3505.7	3531.4	3541.0	3574.4	3585.6	3577.5	3591.7	3590.6	3559.8
16°	3488.0	3484.6	3470.4	3496.9	3508.4	3542.2	3547.9	3545.3	3561.0	3559.1	3521.1
16.5°	3454.3	3452.7	3433.9	3462.3	3475.0	3511.1	3511.5	3511.9	3528.0	3525.7	3484.2
17°	3418.9	3418.6	3397.8	3427.8	3440.4	3476.1	3473.8	3478.1	3493.8	3491.9	3445.0
17.5°	3381.7	3382.8	3361.0	3392.4	3404.0	3442.4	3436.6	3442.7	3457.7	3458.1	3407.4
18°	3341.4	3343.3	3324.1	3356.7	3366.3	3407.0	3400.1	3406.7	3420.5	3423.2	3368.6
18.5°	3299.5	3306.8	3287.2	3318.7	3328.7	3371.3	3363.7	3369.0	3382.5	3385.5	3331.4
19°	3256.9	3265.4	3249.6	3280.0	3290.3	3332.2	3326.4	3331.0	3344.8	3347.5	3294.2
19.5°	3216.6	3222.7	3211.2	3239.6	3251.2	3295.3	3289.6	3293.0	3305.7	3308.0	3256.5
20°	3174.8	3180.5	3174.0	3200.5	3211.2	3255.0	3251.9	3251.9	3265.4	3268.4	3218.1
20.5°	3134.1	3138.7	3136.4	3159.4	3170.9	3215.1	3213.9	3211.2	3224.7	3227.7	3179.4
21°	3094.1	3096.4	3097.6	3118.3	3129.8	3174.0	3175.5	3170.1	3184.0	3186.7	3139.4



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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°	2969.4	2971.3	2978.2	2992.0	3013.5	3048.4	3059.2	3042.7	3062.3	3060.0	3021.6
23°	2921.0	2929.8	2936.3	2949.4	2974.0	3006.2	3019.6	2999.3	3022.7	3017.3	2980.5
23.5°	2869.9	2885.7	2892.9	2903.7	2932.9	2966.3	2979.7	2955.9	2981.6	2974.3	2941.3
24°	2821.2	2838.0	2849.6	2863.0	2891.8	2921.7	2938.6	2912.5	2938.6	2931.0	2897.9
24.5°	2778.9	2788.1	2804.6	2822.3	2851.1	2877.6	2895.6	2869.5	2896.4	2887.6	2854.2
25°	2736.7	2735.9	2759.3	2780.8	2810.0	2833.4	2852.6	2826.1	2854.2	2843.8	2810.8
25.5°	2694.8	2688.3	2713.7	2733.6	2768.9	2788.9	2809.6	2782.8	2812.3	2800.4	2767.4
26°	2650.7	2644.9	2668.3	2686.4	2722.5	2744.7	2766.6	2739.8	2770.1	2757.0	2725.9
26.5°	2595.8	2603.1	2623.0	2638.4	2673.7	2704.4	2724.8	2689.8	2720.6	2707.1	2679.5
27°	2542.8	2560.1	2578.5	2596.2	2626.5	2663.4	2678.3	2645.3	2673.0	2664.9	2632.3
27.5°	2488.3	2515.5	2533.2	2555.9	2573.9	2619.2	2632.3	2603.8	2621.5	2619.2	2585.0
28°	2422.6	2459.1	2489.0	2515.2	2521.3	2567.8	2583.9	2558.9	2568.1	2568.1	2535.9
28.5°	2355.1	2405.4	2442.6	2466.0	2464.9	2518.6	2537.4	2509.8	2510.5	2520.5	2488.3
29°	2289.0	2351.6	2396.5	2418.0	2408.0	2467.5	2490.6	2463.3	2452.6	2468.3	2440.3
29.5°	2223.7	2289.4	2347.8	2370.4	2348.5	2413.8	2444.1	2412.3	2390.8	2413.8	2392.7
30°	2158.1	2224.1	2299.4	2320.1	2286.3	2358.1	2399.2	2359.3	2329.3	2358.5	2344.7
30.5°	2092.4	2158.5	2249.1	2266.8	2220.3	2299.8	2352.8	2305.5	2264.1	2300.9	2298.2
31°	2027.2	2094.0	2201.5	2211.8	2154.6	2242.2	2304.4	2249.9	2195.3	2242.9	2252.5
31.5°	1963.1	2029.9	2154.6	2156.2	2086.7	2181.9	2255.6	2193.0	2127.0	2181.5	2206.9
32°	1899.7	1967.7	2112.8	2099.0	2018.3	2120.5	2206.5	2133.1	2059.0	2120.1	2158.9
32.5°	1835.2	1904.3	2069.8	2039.1	1948.9	2057.1	2162.7	2071.7	1988.4	2056.4	2108.2
33°	1768.8	1842.1	2027.6	1978.8	1882.4	1990.7	2119.7	2009.5	1920.8	1992.2	2061.0
33.5°	1703.1	1781.5	1983.8	1916.2	1814.5	1925.0	2076.7	1945.8	1849.8	1925.0	2016.0
34°	1637.5	1719.6	1938.1	1852.9	1750.0	1859.4	2030.6	1880.1	1784.5	1856.7	1970.0
34.5°	1569.9	1657.4	1890.1	1788.8	1685.5	1794.1	1981.1	1814.5	1718.5	1790.7	1923.9
35°	1502.0	1594.9	1847.9	1725.0	1624.4	1730.0	1939.3	1751.5	1655.5	1728.5	1882.8
35.5°	1434.8	1531.1	1799.5	1660.9	1561.8	1667.4	1898.2	1687.4	1589.1	1662.4	1841.4
36°	1366.4	1468.2	1741.9	1598.3	1500.8	1606.0	1847.5	1624.8	1526.9	1599.9	1791.1
36.5°	1306.1	1404.0	1685.5	1538.0	1440.5	1545.7	1798.0	1563.4	1464.3	1536.5	1736.9
37°	1245.9	1344.5	1630.6	1478.1	1378.3	1486.2	1750.7	1502.3	1403.7	1479.3	1687.8
37.5°	1185.6	1285.0	1571.8	1419.0	1315.4	1427.9	1697.8	1443.6	1340.3	1418.6	1631.3
38°	1124.9	1225.5	1513.5	1357.2	1254.3	1370.3	1644.8	1385.6	1276.2	1361.4	1572.2
38.5°	1067.3	1165.6	1455.5	1302.7	1193.3	1312.3	1592.2	1328.8	1214.4	1303.8	1511.9
39°	1010.9	1106.5	1398.3	1247.8	1133.4	1257.8	1534.6	1272.0	1155.6	1247.0	1450.9
39.5°	953.7	1051.2	1340.7	1193.3	1074.2	1199.4	1477.0	1214.0	1095.0	1189.4	1388.3
40°	898.8	997.5	1283.5	1138.8	1016.7	1142.2	1419.8	1157.9	1036.6	1133.8	1327.6
40.5°	842.7	942.9	1226.3	1084.2	961.0	1085.4	1360.7	1102.3	979.0	1077.7	1267.0
41°	788.6	891.9	1169.1	1030.5	906.9	1031.6	1300.8	1047.0	925.7	1023.2	1207.9
41.5°	735.6	839.7	1111.9	977.9	854.3	977.1	1239.7	992.5	871.1	967.9	1149.5
42°	684.2	789.8	1054.7	924.9	801.3	925.3	1179.4	940.3	819.7	916.5	1092.3
42.5°	634.6	740.6	998.6	876.1	751.7	873.1	1121.5	889.6	768.3	866.5	1036.2
43°	588.2	691.9	942.2	827.8	701.1	826.2	1063.9	840.4	716.8	816.6	982.9
43.5°	543.3	643.5	886.1	780.9	651.9	776.3	1008.6	792.8	668.0	768.6	929.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	419.6	513.7	732.2	648.1	513.3	640.0	852.7	656.9	529.1	634.3	779.0
45.5°	381.2	473.0	685.7	606.2	471.1	595.9	803.6	614.3	486.4	592.0	731.8
46°	345.5	436.1	639.6	564.4	430.8	553.6	756.7	573.2	445.7	550.6	684.9
46.5°	311.4	400.4	597.0	524.5	392.8	512.9	710.7	531.7	407.0	510.2	639.3
47°	278.7	364.7	555.2	484.9	359.0	473.8	667.3	492.6	374.0	472.2	595.9
47.5°	248.8	331.3	515.2	448.1	325.2	435.0	623.1	455.7	340.9	435.4	554.0
48°	221.1	299.5	476.1	412.7	291.8	399.7	582.0	418.9	307.9	400.1	514.1
48.5°	195.8	269.5	439.2	378.6	258.4	368.6	541.0	384.7	275.3	369.7	476.1
49°	173.2	240.7	403.5	347.1	229.6	337.1	502.6	354.4	242.3	339.4	440.0
49.5°	152.4	215.0	369.7	317.5	203.5	306.0	463.8	324.0	215.4	309.5	404.7
50°	134.0	191.2	336.3	288.7	178.5	274.9	427.7	293.7	190.0	279.1	374.7
50.5°	120.2	168.9	306.8	259.5	155.9	243.8	393.1	263.4	167.0	248.8	345.2
51°	106.3	148.6	277.6	233.4	135.5	218.1	362.8	236.1	146.3	224.2	315.2
51.5°	92.5	130.9	251.1	208.5	116.7	194.3	332.1	211.2	126.7	200.4	285.3
52°	78.7	117.5	225.8	185.4	99.8	172.4	301.4	187.4	108.3	178.1	255.7
52.5°	68.0	104.0	203.1	163.6	84.1	150.9	270.7	165.9	91.8	157.0	230.7
53°	58.0	90.2	180.1	142.8	70.3	131.3	244.6	144.7	77.2	137.4	207.3
53.5°	48.4	77.2	161.3	126.7	57.6	113.6	220.4	125.9	63.7	119.0	185.8
54°	39.5	66.8	142.1	110.6	48.0	97.1	196.6	107.9	53.4	102.1	165.1
54.5°	30.3	57.2	127.5	94.8	38.4	82.2	174.3	92.1	43.0	87.5	146.3
55°	22.3	48.4	113.6	78.7	28.8	69.1	154.3	77.2	32.6	73.3	129.0
55.5°	16.1	39.5	99.4	63.0	19.6	56.1	135.1	63.7	22.3	60.7	113.3
56°	14.6	30.7	85.2	51.1	10.0	46.8	117.5	53.4	11.9	50.7	99.1
56.5°	13.1	23.0	71.0	40.3	9.2	37.2	101.0	43.4	8.4	40.7	85.6
57°	11.5	16.1	59.9	30.7	8.8	28.0	86.4	33.4	8.1	31.1	73.7
57.5°	10.0	14.2	51.1	21.1	8.4	18.8	72.9	23.4	7.7	21.1	63.3
58°	8.4	12.7	43.0	13.8	8.1	9.2	61.0	13.4	7.3	11.1	54.1
58.5°	8.1	11.1	36.1	12.3	7.7	8.1	51.1	8.1	6.9	8.1	45.7
59°	7.7	9.6	29.9	10.8	7.3	7.7	44.5	7.3	6.5	7.3	40.3
59.5°	7.7	7.7	25.0	9.2	6.9	7.3	38.0	6.9	6.1	7.3	34.9
60°	7.3	7.3	21.1	7.3	6.9	6.9	31.9	6.5	6.1	6.9	29.2
60.5°	6.9	7.3	17.7	7.3	6.5	6.9	25.3	6.5	5.8	6.5	23.8
61°	6.5	6.9	14.6	6.9	6.1	6.5	18.8	6.1	5.8	6.1	18.4
61.5°	6.5	6.5	12.7	6.5	6.1	6.1	15.4	5.8	5.4	6.1	15.0
62°	6.1	6.5	10.8	6.1	5.8	6.1	12.7	5.8	5.0	5.8	12.7
62.5°	5.8	6.1	8.8	6.1	5.8	5.8	10.4	5.4	5.0	5.8	10.4
63°	5.8	5.8	6.9	5.8	5.4	5.4	8.4	5.4	4.6	5.4	8.4
63.5°	5.4	5.8	6.1	5.8	5.0	5.4	6.9	5.0	4.6	5.0	7.3
64°	5.4	5.4	5.8	5.4	5.0	5.0	5.8	5.0	4.6	5.0	6.1
64.5°	5.0	5.4	5.4	5.4	4.6	5.0	5.4	4.6	4.2	4.6	5.4
65°	5.0	5.0	5.4	5.0	4.6	4.6	5.0	4.6	4.2	4.6	5.4
65.5°	4.6	5.0	5.0	5.0	4.6	4.6	4.6	4.2	3.8	4.6	5.0
66°	4.6	4.6	4.6	4.6	4.2	4.2	4.6	4.2	3.8	4.2	4.6



TEST NUMBER: P776310

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.8	4.2	4.2	4.2	3.8	3.8	4.2	3.8	3.5	3.8	4.2
68°	3.8	3.8	4.2	3.8	3.5	3.8	3.8	3.5	3.1	3.8	3.8
68.5°	3.5	3.8	3.8	3.8	3.5	3.5	3.8	3.5	3.1	3.5	3.8
69°	3.5	3.5	3.8	3.5	3.5	3.5	3.5	3.1	3.1	3.5	3.8
69.5°	3.5	3.5	3.5	3.5	3.1	3.5	3.5	3.1	2.7	3.1	3.5
70°	3.1	3.5	3.5	3.5	3.1	3.1	3.5	3.1	2.7	3.1	3.5
70.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7	2.7	3.1	3.1
71°	2.7	3.1	3.1	3.1	2.7	3.1	3.1	2.7	2.7	2.7	3.1
71.5°	2.7	3.1	3.1	3.1	2.7	2.7	2.7	2.7	2.3	2.7	3.1
72°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.3	2.7	2.7
72.5°	2.3	2.7	2.7	2.7	2.3	2.7	2.7	2.3	2.3	2.3	2.7
73°	2.3	2.3	2.7	2.7	2.3	2.3	2.3	2.3	1.9	2.3	2.7
73.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.9	2.3	2.3
74°	1.9	2.3	2.3	2.3	1.9	2.3	2.3	1.9	1.9	2.3	2.3
74.5°	1.9	1.9	2.3	2.3	1.9	1.9	2.3	1.9	1.9	1.9	2.3
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.9	1.9
75.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.9	1.9
76°	1.5	1.9	1.9	1.9	1.5	1.9	1.9	1.5	1.5	1.5	1.9
76.5°	1.5	1.5	1.9	1.9	1.5	1.5	1.9	1.5	1.5	1.5	1.9
77°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.2	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.5	1.5
78°	1.2	1.2	1.5	1.5	1.2	1.5	1.5	1.2	1.2	1.2	1.5
78.5°	1.2	1.2	1.5	1.2	1.2	1.2	1.5	1.2	1.2	1.2	1.5
79°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	1.2	1.2
79.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	1.2	1.2
80°	0.8	0.8	1.2	1.2	0.8	1.2	1.2	0.8	0.8	0.8	1.2
80.5°	0.8	0.8	1.2	1.2	0.8	1.2	1.2	0.8	0.8	0.8	1.2
81°	0.8	0.8	1.2	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8
81.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.8	0.8
82°	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
82.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
83°	0.4	0.4	0.8	0.8	0.4	0.8	0.8	0.4	0.4	0.4	0.8
83.5°	0.4	0.4	0.8	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4
85°	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
85.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86.5°	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.4
87°	0.0	0.0	0.0	0.0	0.0	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	0.0	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: P776310
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776310

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4131.5	4131.5	4131.5	4131.5	4131.5	4131.5
0.5°	4130.8	4130.8	4128.4	4126.1	4128.8	4130.8
1°	4129.2	4128.8	4125.4	4122.3	4125.8	4126.5
1.5°	4126.5	4126.1	4121.9	4117.7	4120.8	4122.3
2°	4123.1	4121.9	4116.9	4111.2	4115.4	4115.8
2.5°	4117.7	4116.2	4110.0	4104.3	4108.5	4108.5
3°	4111.6	4109.6	4102.0	4095.0	4101.2	4101.2
3.5°	4104.6	4101.6	4093.1	4086.2	4092.7	4092.0
4°	4096.2	4093.1	4083.1	4075.1	4082.8	4082.0
4.5°	4086.2	4082.0	4071.6	4063.9	4071.2	4069.7
5°	4075.5	4070.1	4059.3	4050.5	4059.0	4056.3
5.5°	4062.8	4057.0	4045.1	4036.3	4044.4	4041.3
6°	4049.0	4042.4	4029.8	4021.7	4029.0	4024.8
6.5°	4033.2	4025.9	4013.3	4004.1	4011.7	4007.5
7°	4016.3	4007.9	3994.5	3985.2	3993.3	3987.9
7.5°	3997.1	3988.7	3975.3	3965.7	3974.1	3968.0
8°	3977.6	3967.2	3953.0	3944.2	3953.0	3946.1
8.5°	3955.7	3944.2	3930.0	3921.5	3931.5	3922.7
9°	3932.3	3918.4	3905.4	3897.7	3906.9	3896.2
9.5°	3907.3	3892.3	3879.3	3872.7	3881.6	3870.1
10°	3881.2	3865.5	3851.2	3844.0	3855.1	3845.1
10.5°	3854.3	3836.7	3822.1	3818.6	3828.6	3817.5
11°	3825.9	3808.2	3793.3	3788.7	3801.3	3790.2
11.5°	3797.5	3777.5	3762.9	3756.8	3772.9	3761.8
12°	3766.8	3747.2	3731.5	3723.0	3743.4	3734.5
12.5°	3736.8	3717.6	3699.6	3690.4	3713.8	3706.1
13°	3706.1	3687.3	3667.3	3655.4	3684.2	3676.2
13.5°	3675.0	3657.4	3635.9	3620.1	3653.5	3646.2
14°	3643.5	3626.6	3602.8	3582.9	3621.7	3615.9
14.5°	3611.7	3596.3	3571.4	3546.8	3590.2	3584.8
15°	3580.2	3563.3	3538.0	3509.2	3557.5	3553.7
15.5°	3547.9	3530.7	3503.8	3471.9	3523.8	3522.2
16°	3514.5	3498.0	3468.8	3434.3	3490.3	3488.0
16.5°	3480.4	3464.2	3434.7	3397.1	3456.2	3454.3
17°	3444.7	3428.5	3399.0	3359.0	3420.5	3418.9
17.5°	3410.1	3393.2	3362.5	3321.8	3384.8	3381.7
18°	3373.2	3354.4	3324.5	3284.2	3347.9	3341.4
18.5°	3336.4	3314.5	3286.5	3245.8	3309.5	3299.5
19°	3297.6	3275.3	3246.6	3207.8	3268.8	3256.9
19.5°	3257.3	3234.6	3205.9	3169.4	3226.6	3216.6
20°	3217.0	3192.4	3165.2	3128.7	3183.6	3174.8
20.5°	3174.8	3151.3	3122.2	3089.5	3140.6	3134.1
21°	3132.9	3108.7	3079.9	3049.6	3096.0	3094.1

TEST NUMBER: P776310

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3004.3	2981.6	2947.5	2928.7	2964.7	2969.4
23°	2959.0	2939.4	2902.5	2887.2	2921.0	2921.0
23.5°	2914.8	2896.0	2857.6	2845.0	2878.4	2869.9
24°	2870.3	2847.3	2813.5	2800.8	2833.1	2821.2
24.5°	2825.8	2795.8	2768.2	2754.3	2785.1	2778.9
25°	2781.6	2747.4	2720.9	2708.3	2734.4	2736.7
25.5°	2737.1	2705.6	2671.8	2662.2	2683.3	2694.8
26°	2685.6	2664.5	2620.0	2615.4	2631.5	2650.7
26.5°	2633.8	2613.4	2571.2	2566.6	2586.6	2595.8
27°	2585.4	2558.2	2527.8	2519.8	2542.8	2542.8
27.5°	2540.5	2507.9	2484.1	2470.6	2500.2	2488.3
28°	2497.1	2444.1	2432.6	2422.6	2455.3	2422.6
28.5°	2447.6	2379.2	2376.6	2375.4	2404.6	2355.1
29°	2390.0	2312.8	2326.3	2329.7	2349.7	2289.0
29.5°	2339.3	2247.6	2265.2	2283.6	2299.0	2223.7
30°	2277.1	2182.7	2201.1	2237.6	2239.5	2158.1
30.5°	2216.1	2118.9	2135.4	2190.0	2178.1	2092.4
31°	2150.0	2054.8	2071.7	2141.2	2114.7	2027.2
31.5°	2086.7	1990.7	2008.7	2087.8	2050.6	1963.1
32°	2024.9	1928.1	1946.9	2035.6	1987.6	1899.7
32.5°	1964.2	1865.9	1884.0	1986.1	1925.4	1835.2
33°	1900.5	1802.6	1825.2	1941.2	1865.9	1768.8
33.5°	1841.7	1737.3	1765.3	1902.8	1805.3	1703.1
34°	1780.7	1670.9	1706.2	1865.5	1745.4	1637.5
34.5°	1723.1	1604.1	1644.4	1816.4	1684.3	1569.9
35°	1660.9	1537.3	1585.3	1771.1	1625.6	1502.0
35.5°	1601.8	1471.6	1523.1	1724.6	1565.3	1434.8
36°	1539.6	1406.4	1462.0	1664.7	1506.2	1366.4
36.5°	1480.8	1345.3	1399.8	1608.3	1445.1	1306.1
37°	1417.1	1284.3	1341.1	1548.8	1386.4	1245.9
37.5°	1355.3	1223.6	1282.3	1484.7	1328.0	1185.6
38°	1293.9	1162.6	1224.0	1420.2	1269.3	1124.9
38.5°	1234.3	1101.9	1165.6	1354.9	1210.9	1067.3
39°	1176.0	1046.2	1107.3	1297.3	1152.6	1010.9
39.5°	1119.9	990.9	1052.4	1240.1	1094.2	953.7
40°	1064.3	934.5	1000.9	1182.5	1041.2	898.8
40.5°	1011.3	878.1	948.3	1125.3	988.2	842.7
41°	959.8	825.5	898.0	1071.2	937.6	788.6
41.5°	909.2	769.0	847.7	1018.6	886.1	735.6
42°	859.2	719.9	798.2	967.1	837.4	684.2
42.5°	809.3	670.0	749.4	917.6	789.0	634.6
43°	760.6	623.5	701.1	867.7	742.9	588.2
43.5°	713.4	575.5	654.6	819.3	696.1	543.3



TEST NUMBER: P776310

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	579.0	450.7	526.0	678.8	563.2	419.6
45.5°	537.5	410.8	486.8	635.4	522.9	381.2
46°	498.0	374.7	449.6	592.4	483.4	345.5
46.5°	460.0	339.4	413.5	552.9	446.5	311.4
47°	423.5	305.6	378.9	514.1	410.4	278.7
47.5°	388.9	273.4	344.8	477.6	375.1	248.8
48°	357.4	245.7	312.9	441.9	342.9	221.1
48.5°	326.0	218.5	283.0	409.7	311.0	195.8
49°	294.5	194.3	254.5	378.2	281.0	173.2
49.5°	263.4	172.4	228.4	349.0	251.9	152.4
50°	236.1	152.0	203.5	319.4	227.3	134.0
50.5°	210.8	133.6	180.8	292.6	203.1	120.2
51°	188.5	120.2	160.5	266.1	180.1	106.3
51.5°	167.0	106.7	142.4	242.3	158.6	92.5
52°	147.0	93.7	129.0	219.6	140.5	78.7
52.5°	129.4	80.2	115.6	197.7	126.7	68.0
53°	113.6	69.5	102.1	177.0	112.9	58.0
53.5°	99.8	59.5	88.7	158.6	99.1	48.4
54°	87.2	49.9	75.3	141.3	85.2	39.5
54.5°	76.0	41.1	65.7	127.5	71.4	30.3
55°	66.0	32.3	56.1	114.0	61.4	22.3
55.5°	56.4	23.8	47.2	100.2	52.6	16.1
56°	49.1	17.7	38.0	86.8	43.8	14.6
56.5°	41.8	12.7	29.9	72.9	35.7	13.1
57°	34.6	11.9	21.9	62.6	28.0	11.5
57.5°	27.3	11.1	15.7	53.8	20.7	10.0
58°	20.0	10.8	14.2	45.7	14.6	8.4
58.5°	12.7	10.0	12.7	38.4	13.1	8.1
59°	10.0	9.6	11.5	32.3	11.5	7.7
59.5°	9.2	9.2	10.0	26.9	9.6	7.7
60°	8.8	8.4	8.8	22.3	8.1	7.3
60.5°	8.4	8.1	8.4	18.4	7.7	6.9
61°	8.1	7.7	8.1	15.4	7.3	6.5
61.5°	7.7	7.3	7.7	13.4	6.9	6.5
62°	7.3	7.3	7.3	11.5	6.5	6.1
62.5°	6.9	6.9	6.9	9.6	6.5	5.8
63°	6.5	6.5	6.5	7.7	6.1	5.8
63.5°	6.1	6.1	6.1	6.5	5.8	5.4
64°	6.1	5.8	6.1	5.8	5.8	5.4
64.5°	5.8	5.8	5.8	5.8	5.4	5.0
65°	5.4	5.4	5.4	5.4	5.4	5.0
65.5°	5.4	5.4	5.4	5.4	5.0	4.6
66°	5.0	5.0	5.0	5.0	5.0	4.6



TEST NUMBER: P776310
 CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.6	4.2	4.6	4.2	4.2	3.8
68°	4.2	4.2	4.2	4.2	4.2	3.8
68.5°	4.2	3.8	4.2	3.8	3.8	3.5
69°	3.8	3.8	3.8	3.8	3.8	3.5
69.5°	3.8	3.8	3.8	3.8	3.5	3.5
70°	3.5	3.5	3.5	3.5	3.5	3.1
70.5°	3.5	3.5	3.5	3.5	3.5	3.1
71°	3.1	3.1	3.1	3.1	3.1	2.7
71.5°	3.1	3.1	3.1	3.1	3.1	2.7
72°	3.1	3.1	3.1	3.1	2.7	2.7
72.5°	2.7	2.7	2.7	2.7	2.7	2.3
73°	2.7	2.7	2.7	2.7	2.7	2.3
73.5°	2.7	2.7	2.7	2.7	2.3	2.3
74°	2.3	2.3	2.3	2.3	2.3	1.9
74.5°	2.3	2.3	2.3	2.3	2.3	1.9
75°	2.3	2.3	2.3	2.3	1.9	1.9
75.5°	1.9	1.9	1.9	1.9	1.9	1.9
76°	1.9	1.9	1.9	1.9	1.9	1.5
76.5°	1.9	1.9	1.9	1.9	1.9	1.5
77°	1.9	1.5	1.9	1.9	1.5	1.5
77.5°	1.5	1.5	1.5	1.5	1.5	1.5
78°	1.5	1.5	1.5	1.5	1.5	1.2
78.5°	1.5	1.5	1.5	1.5	1.2	1.2
79°	1.2	1.2	1.5	1.5	1.2	1.2
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	0.8
80.5°	1.2	1.2	1.2	1.2	0.8	0.8
81°	1.2	1.2	1.2	1.2	0.8	0.8
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	0.4	0.4
83°	0.8	0.8	0.8	0.8	0.4	0.4
83.5°	0.8	0.8	0.8	0.8	0.4	0.4
84°	0.4	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	0.0	0.4
85.5°	0.4	0.4	0.4	0.4	0.0	0.0
86°	0.4	0.4	0.4	0.4	0.0	0.0
86.5°	0.4	0.4	0.4	0.4	0.0	0.0
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: P776310

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

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



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

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	3055.0	3054.6	3057.3	3076.1	3089.5	3133.3	3137.1	3128.3	3143.3	3144.8	3101.0
22°	3013.9	3011.2	3018.1	3034.6	3051.9	3090.7	3097.6	3087.6	3103.0	3102.2	3061.5



44°	499.9	598.6	832.4	734.5	604.3	730.2	953.7	745.2	620.8	721.8	879.2
44.5°	458.0	555.2	780.5	691.5	557.5	684.2	901.9	700.7	574.8	677.6	828.1



66.5°	4.2	4.6	4.6	4.6	4.2	4.2	4.2	3.8	3.8	4.2	4.6
67°	4.2	4.2	4.2	4.2	3.8	4.2	4.2	3.8	3.5	3.8	4.2



89°	0.0	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	0.0

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21.5°	3090.7	3065.0	3036.2	3008.9	3052.7	3055.0
22°	3047.3	3023.5	2992.4	2969.4	3008.9	3013.9



44°	667.3	532.9	610.1	770.9	649.2	499.9
44.5°	621.6	491.4	567.8	724.9	604.7	458.0

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66.5°	5.0	4.6	5.0	4.6	4.6	4.2
67°	4.6	4.6	4.6	4.6	4.6	4.2

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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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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)