

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: P776622

Luminaire Tested: HCDJBS4050CSD-HCD4TSQC-5000lm-3500K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776622
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-HCD4TSQC-5000lm-3500K
Description: 4 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

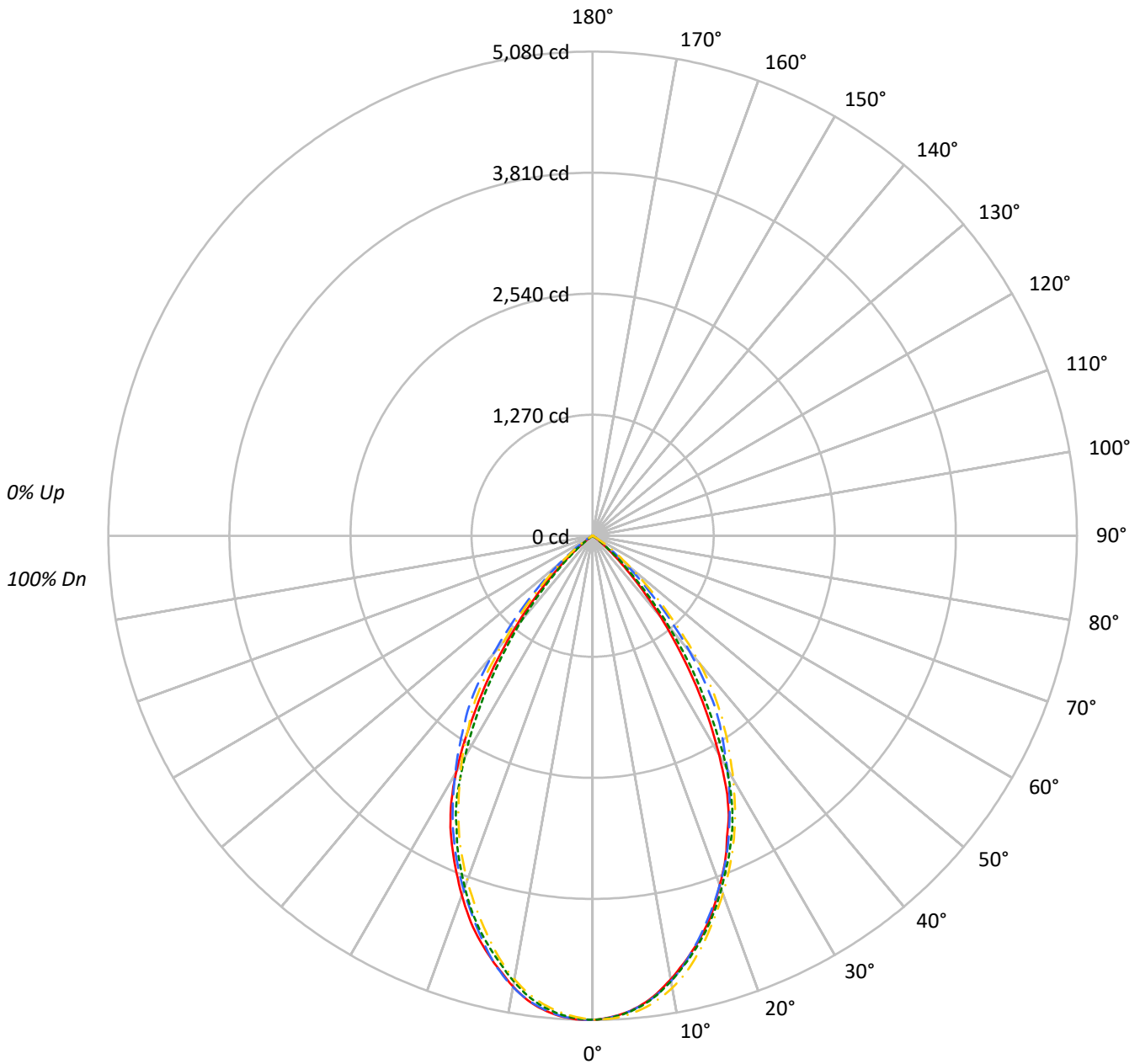
Lumens per Lamp: N/A
Luminaire Lumens: 5251.2 lumens
Efficiency: N/A
Efficacy: 109.4 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.93 / 0.98
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 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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CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					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°	501782	501782	501782	501782
5°	494521	495365	498688	496208
10°	474204	476191	482103	476713
15°	446830	449193	455620	448037
20°	410329	415042	422036	412612
25°	366737	376563	382474	368177
30°	302658	320634	326672	306094
35°	222685	240845	245455	227922
40°	142500	161183	164345	148164
45°	72073	88162	90874	77412
50°	25311	33737	35906	28724
55°	4722	6100	6910	6824
60°	1779	1680	1483	2056
65°	1427	1333	1216	1544
70°	1098	1098	954	1214
75°	917	917	726	1069
80°	512	512	512	797
85°	567	567	0	567

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 146466 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	469.9	8.9
10°-20°	1229.2	23.4
20°-30°	1561.0	29.7
30°-40°	1290.9	24.6
40°-50°	590.7	11.2
50°-60°	99.2	1.9
60°-70°	7.0	0.1
70°-80°	2.7	0.1
80°-90°	0.5	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°	3260.2	62.1
0°-40°	4551.1	86.7
0°-60°	5241.0	99.8
0°-90°	5251.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5251.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	5077	5077	5077	5077	5077	
5°	4984	4993	5026	5001	4984	467
15°	4367	4390	4452	4378	4367	1220
25°	3363	3453	3507	3376	3363	1527
35°	1846	1996	2034	1889	1846	1146
45°	516	631	650	554	516	418
55°	27	35	40	40	27	44
65°	6	6	5	7	6	6
75°	2	2	2	3	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°	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6
0.5°	5075.6	5076.1	5076.1	5073.8	5075.6	5075.6	5075.6	5077.5	5080.4	5080.8	5079.9
1°	5070.5	5071.9	5072.3	5070.9	5073.3	5074.2	5075.6	5077.5	5080.4	5080.4	5078.9
1.5°	5065.3	5066.2	5067.2	5066.7	5068.6	5070.5	5073.8	5075.6	5078.9	5079.9	5076.6
2°	5057.2	5058.7	5060.1	5059.6	5062.4	5066.7	5070.5	5072.3	5076.1	5077.5	5073.8
2.5°	5048.3	5049.7	5051.6	5051.6	5054.4	5060.1	5066.7	5067.2	5070.9	5072.3	5070.0
3°	5039.3	5040.3	5041.2	5042.1	5045.4	5052.1	5060.1	5061.0	5065.3	5065.7	5062.4
3.5°	5028.0	5028.5	5029.9	5031.3	5034.6	5043.6	5053.0	5051.6	5057.7	5058.2	5053.9
4°	5015.7	5015.7	5016.7	5019.0	5022.3	5032.7	5043.1	5042.6	5048.8	5048.8	5044.0
4.5°	5000.6	5001.6	5003.5	5005.8	5009.1	5021.4	5032.2	5031.3	5038.8	5038.4	5032.7
5°	4984.1	4984.6	4987.9	4990.7	4992.6	5007.7	5020.4	5019.0	5026.1	5027.1	5019.5
5.5°	4965.7	4966.7	4970.9	4974.2	4976.6	4992.1	5007.2	5005.4	5012.4	5013.4	5005.8
6°	4945.4	4946.4	4952.5	4955.3	4957.7	4976.1	4991.2	4989.3	4997.3	4997.8	4989.8
6.5°	4924.2	4924.7	4931.8	4936.0	4937.4	4957.2	4975.2	4972.3	4981.3	4981.3	4974.2
7°	4900.1	4901.1	4909.6	4914.8	4915.7	4936.5	4957.7	4953.5	4962.4	4962.9	4955.3
7.5°	4875.6	4875.6	4886.5	4891.7	4890.7	4914.3	4937.9	4933.6	4940.7	4943.1	4935.5
8°	4848.7	4849.2	4859.6	4867.1	4864.8	4889.8	4916.7	4910.5	4917.1	4919.5	4913.4
8.5°	4819.9	4821.8	4833.6	4840.2	4836.0	4863.8	4894.0	4886.5	4891.7	4896.4	4889.3
9°	4787.4	4791.2	4804.4	4811.0	4806.7	4836.5	4869.5	4859.6	4863.4	4869.5	4865.2
9.5°	4755.3	4759.6	4774.7	4781.3	4776.1	4807.2	4844.0	4830.8	4834.6	4841.2	4838.3
10°	4724.7	4726.5	4742.6	4750.1	4744.5	4778.0	4816.6	4801.1	4803.4	4811.0	4808.2
10.5°	4690.7	4693.0	4710.0	4716.6	4711.4	4747.8	4786.9	4768.5	4770.9	4779.4	4777.5
11°	4657.2	4659.6	4675.6	4683.1	4678.4	4713.8	4754.4	4735.5	4736.0	4747.3	4745.9
11.5°	4622.3	4625.1	4638.3	4647.3	4643.0	4680.8	4723.2	4699.7	4699.7	4712.4	4711.9
12°	4588.8	4589.7	4600.6	4610.0	4608.1	4646.8	4688.8	4663.8	4664.7	4675.1	4674.2
12.5°	4553.9	4553.9	4559.1	4573.7	4573.7	4611.9	4651.5	4626.1	4631.7	4639.3	4638.8
13°	4517.1	4518.0	4519.9	4535.5	4539.3	4577.0	4613.8	4587.8	4597.8	4603.4	4597.8
13.5°	4480.3	4480.3	4479.3	4496.3	4502.5	4541.6	4577.0	4550.6	4561.9	4564.7	4555.8
14°	4443.0	4442.1	4436.9	4458.1	4465.2	4505.3	4533.6	4512.8	4525.6	4527.0	4511.9
14.5°	4404.8	4403.4	4394.4	4418.5	4427.9	4468.5	4492.1	4474.6	4489.2	4489.7	4468.5
15°	4366.6	4364.7	4352.9	4379.8	4389.7	4430.7	4450.1	4436.4	4452.5	4451.5	4420.8
15.5°	4327.9	4324.6	4307.6	4339.2	4351.0	4392.1	4405.7	4395.8	4413.3	4411.9	4374.1
16°	4285.9	4281.7	4264.2	4296.8	4310.9	4352.4	4359.5	4356.2	4375.6	4373.2	4326.5
16.5°	4244.4	4242.5	4219.4	4254.3	4269.9	4314.2	4314.7	4315.2	4335.0	4332.2	4281.2
17°	4201.0	4200.5	4175.1	4211.9	4227.4	4271.3	4268.5	4273.7	4293.0	4290.6	4233.1
17.5°	4155.2	4156.7	4129.8	4168.5	4182.6	4229.8	4222.7	4230.3	4248.7	4249.1	4186.9
18°	4105.7	4108.1	4084.5	4124.6	4136.4	4186.4	4177.9	4185.9	4202.9	4206.2	4139.2
18.5°	4054.3	4063.3	4039.2	4077.9	4090.1	4142.5	4133.1	4139.7	4156.2	4160.0	4093.4
19°	4001.9	4012.3	3993.0	4030.2	4043.0	4094.4	4087.3	4093.0	4110.0	4113.3	4047.7
19.5°	3952.4	3959.9	3945.8	3980.7	3994.8	4049.1	4042.0	4046.3	4061.8	4064.7	4001.4
20°	3901.0	3908.0	3900.0	3932.6	3945.8	3999.6	3995.8	3995.8	4012.3	4016.1	3954.3
20.5°	3851.0	3856.6	3853.8	3882.1	3896.2	3950.5	3949.1	3945.8	3962.3	3966.1	3906.6
21°	3801.9	3804.7	3806.1	3831.6	3845.8	3900.0	3901.9	3895.3	3912.3	3915.6	3857.6



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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°	3648.6	3650.9	3659.4	3676.4	3702.8	3745.8	3759.0	3738.7	3762.7	3759.9	3712.7
23°	3589.1	3600.0	3608.0	3624.0	3654.2	3693.9	3710.4	3685.4	3714.1	3707.5	3662.3
23.5°	3526.4	3545.7	3554.7	3567.9	3603.8	3644.8	3661.3	3632.1	3663.7	3654.7	3614.1
24°	3466.5	3487.2	3501.4	3517.9	3553.3	3590.1	3610.8	3578.8	3610.8	3601.4	3560.8
24.5°	3414.6	3425.9	3446.2	3467.9	3503.3	3535.8	3558.0	3525.9	3558.9	3548.1	3507.0
25°	3362.7	3361.7	3390.5	3416.9	3452.8	3481.6	3505.2	3472.6	3507.0	3494.3	3453.7
25.5°	3311.3	3303.2	3334.4	3358.9	3402.3	3426.8	3452.3	3419.3	3455.6	3441.0	3400.4
26°	3257.0	3249.9	3278.7	3300.9	3345.2	3372.6	3399.5	3366.5	3403.7	3387.7	3349.5
26.5°	3189.6	3198.5	3223.0	3241.9	3285.3	3323.1	3348.1	3305.1	3342.9	3326.4	3292.4
27°	3124.5	3145.7	3168.3	3190.0	3227.3	3272.6	3291.0	3250.4	3284.4	3274.5	3234.4
27.5°	3057.5	3091.0	3112.7	3140.5	3162.7	3218.3	3234.4	3199.5	3221.2	3218.3	3176.3
28°	2976.8	3021.6	3058.4	3090.5	3098.0	3155.1	3174.9	3144.3	3155.6	3155.6	3116.0
28.5°	2893.8	2955.6	3001.3	3030.1	3028.7	3094.7	3117.8	3083.9	3084.8	3097.1	3057.5
29°	2812.6	2889.5	2944.7	2971.1	2958.9	3032.0	3060.3	3026.8	3013.6	3032.9	2998.5
29.5°	2732.4	2813.1	2884.8	2912.6	2885.7	2965.9	3003.2	2964.1	2937.6	2965.9	2940.0
30°	2651.8	2732.9	2825.4	2850.8	2809.3	2897.5	2948.0	2899.0	2862.2	2898.0	2881.0
30.5°	2571.1	2652.2	2763.6	2785.3	2728.2	2825.8	2890.9	2832.9	2782.0	2827.2	2823.9
31°	2490.9	2573.0	2705.1	2717.8	2647.5	2755.1	2831.5	2764.5	2697.5	2756.0	2767.8
31.5°	2412.1	2494.2	2647.5	2649.4	2564.0	2681.0	2771.6	2694.7	2613.5	2680.5	2711.7
32°	2334.3	2417.8	2596.1	2579.1	2480.0	2605.5	2711.2	2621.1	2530.0	2605.0	2652.7
32.5°	2255.0	2339.9	2543.2	2505.5	2394.6	2527.7	2657.4	2545.6	2443.2	2526.7	2590.4
33°	2173.4	2263.5	2491.4	2431.4	2313.0	2446.1	2604.6	2469.2	2360.2	2448.0	2532.4
33.5°	2092.7	2189.0	2437.6	2354.5	2229.5	2365.4	2551.7	2390.9	2272.9	2365.4	2477.2
34°	2012.0	2113.0	2381.4	2276.7	2150.3	2284.7	2495.1	2310.2	2192.7	2281.4	2420.6
34.5°	1929.0	2036.6	2322.5	2197.9	2071.0	2204.5	2434.3	2229.5	2111.6	2200.3	2364.0
35°	1845.5	1959.7	2270.6	2119.6	1996.0	2125.7	2382.8	2152.2	2034.2	2123.9	2313.5
35.5°	1763.0	1881.4	2211.1	2040.8	1919.1	2048.8	2332.4	2073.4	1952.6	2042.7	2262.6
36°	1679.0	1804.0	2140.4	1963.9	1844.1	1973.4	2270.1	1996.5	1876.2	1965.8	2200.8
36.5°	1604.9	1725.2	2071.0	1889.9	1770.0	1899.3	2209.2	1921.0	1799.3	1888.0	2134.2
37°	1530.9	1652.1	2003.6	1816.3	1693.6	1826.2	2151.2	1846.0	1724.7	1817.7	2073.8
37.5°	1456.8	1579.0	1931.4	1743.6	1616.2	1754.5	2086.1	1773.8	1646.9	1743.1	2004.5
38°	1382.3	1505.9	1859.7	1667.7	1541.2	1683.7	2021.0	1702.6	1568.1	1672.9	1931.8
38.5°	1311.5	1432.3	1788.4	1600.7	1466.2	1612.5	1956.4	1632.8	1492.2	1602.1	1857.8
39°	1242.1	1359.6	1718.1	1533.2	1392.6	1545.5	1885.6	1562.9	1420.0	1532.3	1782.8
39.5°	1171.8	1291.7	1647.4	1466.2	1320.0	1473.8	1814.9	1491.7	1345.5	1461.5	1705.9
40°	1104.4	1225.6	1577.1	1399.2	1249.2	1403.5	1744.6	1422.8	1273.7	1393.1	1631.3
40.5°	1035.5	1158.6	1506.8	1332.2	1180.8	1333.7	1671.9	1354.4	1203.0	1324.2	1556.8
41°	969.0	1095.9	1436.5	1266.2	1114.3	1267.6	1598.3	1286.5	1137.4	1257.2	1484.2
41.5°	903.9	1031.7	1366.2	1201.6	1049.7	1200.6	1523.3	1219.5	1070.4	1189.3	1412.4
42°	840.7	970.4	1295.9	1136.5	984.6	1136.9	1449.2	1155.3	1007.2	1126.1	1342.2
42.5°	779.8	910.0	1227.0	1076.6	923.7	1072.8	1378.0	1093.1	944.0	1064.8	1273.3
43°	722.7	850.1	1157.7	1017.1	861.4	1015.2	1307.2	1032.7	880.8	1003.4	1207.7
43.5°	667.5	790.7	1088.8	959.6	801.0	953.9	1239.3	974.2	820.9	944.5	1142.6



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CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	515.6	631.2	899.6	796.3	630.7	786.4	1047.8	807.2	650.1	779.3	957.2
45.5°	468.5	581.2	842.6	744.9	578.8	732.2	987.4	754.8	597.7	727.5	899.2
46°	424.6	535.9	785.9	693.5	529.3	680.3	929.8	704.3	547.7	676.5	841.6
46.5°	382.6	492.0	733.6	644.4	482.6	630.3	873.2	653.4	500.1	627.0	785.5
47°	342.5	448.2	682.2	595.8	441.1	582.1	819.9	605.3	459.5	580.3	732.2
47.5°	305.7	407.1	633.1	550.5	399.6	534.5	765.7	560.0	418.9	535.0	680.7
48°	271.7	368.0	585.0	507.1	358.5	491.1	715.2	514.7	378.3	491.6	631.7
48.5°	240.6	331.2	539.7	465.2	317.5	452.9	664.7	472.7	338.3	454.3	585.0
49°	212.8	295.8	495.8	426.5	282.1	414.2	617.5	435.4	297.7	417.0	540.6
49.5°	187.3	264.2	454.3	390.1	250.0	376.0	569.9	398.2	264.7	380.2	497.2
50°	164.6	234.9	413.3	354.8	219.4	337.8	525.5	360.9	233.5	343.0	460.4
50.5°	147.7	207.6	376.9	318.9	191.5	299.6	483.1	323.6	205.2	305.7	424.1
51°	130.7	182.6	341.1	286.8	166.5	268.0	445.8	290.1	179.7	275.5	387.3
51.5°	113.7	160.9	308.5	256.2	143.4	238.7	408.1	259.5	155.7	246.3	350.5
52°	96.7	144.4	277.4	227.9	122.7	211.8	370.3	230.2	133.0	218.9	314.2
52.5°	83.5	127.8	249.6	201.0	103.3	185.4	332.6	203.8	112.8	192.9	283.5
53°	71.2	110.9	221.3	175.5	86.3	161.3	300.5	177.9	94.8	168.9	254.7
53.5°	59.4	94.8	198.1	155.7	70.8	139.6	270.8	154.7	78.3	146.2	228.3
54°	48.6	82.1	174.6	135.9	59.0	119.4	241.5	132.6	65.6	125.5	202.9
54.5°	37.3	70.3	156.6	116.5	47.2	101.0	214.2	113.2	52.8	107.6	179.7
55°	27.4	59.4	139.6	96.7	35.4	84.9	189.6	94.8	40.1	90.1	158.5
55.5°	19.8	48.6	122.2	77.4	24.1	68.9	166.1	78.3	27.4	74.5	139.2
56°	17.9	37.7	104.7	62.7	12.3	57.6	144.4	65.6	14.6	62.3	121.7
56.5°	16.0	28.3	87.3	49.5	11.3	45.8	124.1	53.3	10.4	50.0	105.2
57°	14.2	19.8	73.6	37.7	10.9	34.4	106.1	41.0	9.9	38.2	90.6
57.5°	12.3	17.5	62.7	25.9	10.4	23.1	89.6	28.8	9.4	25.9	77.8
58°	10.4	15.6	52.8	17.0	9.9	11.3	75.0	16.5	9.0	13.7	66.5
58.5°	9.9	13.7	44.3	15.1	9.4	9.9	62.7	9.9	8.5	9.9	56.1
59°	9.4	11.8	36.8	13.2	9.0	9.4	54.7	9.0	8.0	9.0	49.5
59.5°	9.4	9.4	30.7	11.3	8.5	9.0	46.7	8.5	7.5	9.0	42.9
60°	9.0	9.0	25.9	9.0	8.5	8.5	39.2	8.0	7.5	8.5	35.9
60.5°	8.5	9.0	21.7	9.0	8.0	8.5	31.1	8.0	7.1	8.0	29.2
61°	8.0	8.5	17.9	8.5	7.5	8.0	23.1	7.5	7.1	7.5	22.6
61.5°	8.0	8.0	15.6	8.0	7.5	7.5	18.9	7.1	6.6	7.5	18.4
62°	7.5	8.0	13.2	7.5	7.1	7.5	15.6	7.1	6.1	7.1	15.6
62.5°	7.1	7.5	10.9	7.5	7.1	7.1	12.7	6.6	6.1	7.1	12.7
63°	7.1	7.1	8.5	7.1	6.6	6.6	10.4	6.6	5.7	6.6	10.4
63.5°	6.6	7.1	7.5	7.1	6.1	6.6	8.5	6.1	5.7	6.1	9.0
64°	6.6	6.6	7.1	6.6	6.1	6.1	7.1	6.1	5.7	6.1	7.5
64.5°	6.1	6.6	6.6	6.6	5.7	6.1	6.6	5.7	5.2	5.7	6.6
65°	6.1	6.1	6.6	6.1	5.7	5.7	6.1	5.7	5.2	5.7	6.6
65.5°	5.7	6.1	6.1	6.1	5.7	5.7	5.7	5.2	4.7	5.7	6.1
66°	5.7	5.7	5.7	5.7	5.2	5.2	5.7	5.2	4.7	5.2	5.7



TEST NUMBER: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.7	5.2	5.2	5.2	4.7	4.7	5.2	4.7	4.2	4.7	5.2
68°	4.7	4.7	5.2	4.7	4.2	4.7	4.7	4.2	3.8	4.7	4.7
68.5°	4.2	4.7	4.7	4.7	4.2	4.2	4.7	4.2	3.8	4.2	4.7
69°	4.2	4.2	4.7	4.2	4.2	4.2	4.2	3.8	3.8	4.2	4.7
69.5°	4.2	4.2	4.2	4.2	3.8	4.2	4.2	3.8	3.3	3.8	4.2
70°	3.8	4.2	4.2	4.2	3.8	3.8	4.2	3.8	3.3	3.8	4.2
70.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.3	3.3	3.8	3.8
71°	3.3	3.8	3.8	3.8	3.3	3.8	3.8	3.3	3.3	3.3	3.8
71.5°	3.3	3.8	3.8	3.8	3.3	3.3	3.3	3.3	2.8	3.3	3.8
72°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	2.8	2.8	3.3	3.3
72.5°	2.8	3.3	3.3	3.3	2.8	3.3	3.3	2.8	2.8	2.8	3.3
73°	2.8	2.8	3.3	3.3	2.8	2.8	2.8	2.8	2.4	2.8	3.3
73.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.4	2.8	2.8
74°	2.4	2.8	2.8	2.8	2.4	2.8	2.8	2.4	2.4	2.8	2.8
74.5°	2.4	2.4	2.8	2.8	2.4	2.4	2.8	2.4	2.4	2.4	2.8
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.9	2.4	2.4
75.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.9	1.9	2.4	2.4
76°	1.9	2.4	2.4	2.4	1.9	2.4	2.4	1.9	1.9	1.9	2.4
76.5°	1.9	1.9	2.4	2.4	1.9	1.9	2.4	1.9	1.9	1.9	2.4
77°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.4	1.4	1.9	1.9
78°	1.4	1.4	1.9	1.9	1.4	1.9	1.9	1.4	1.4	1.4	1.9
78.5°	1.4	1.4	1.9	1.4	1.4	1.4	1.9	1.4	1.4	1.4	1.9
79°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	1.4	1.4
79.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.9	0.9	1.4	1.4
80°	0.9	0.9	1.4	1.4	0.9	1.4	1.4	0.9	0.9	0.9	1.4
80.5°	0.9	0.9	1.4	1.4	0.9	1.4	1.4	0.9	0.9	0.9	1.4
81°	0.9	0.9	1.4	0.9	0.9	0.9	1.4	0.9	0.9	0.9	0.9
81.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.5	0.9	0.9	0.9
82°	0.9	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
82.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.9
83°	0.5	0.5	0.9	0.9	0.5	0.9	0.9	0.5	0.5	0.5	0.9
83.5°	0.5	0.5	0.9	0.5	0.5	0.5	0.9	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5
85°	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
85.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
86°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
86.5°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.5
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: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-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: P776622

CATALOG NUMBER: HCDJBL4050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5076.6	5076.6	5076.6	5076.6	5076.6	5076.6
0.5°	5075.6	5075.6	5072.8	5070.0	5073.3	5075.6
1°	5073.8	5073.3	5069.0	5065.3	5069.5	5070.5
1.5°	5070.5	5070.0	5064.8	5059.6	5063.4	5065.3
2°	5066.2	5064.8	5058.7	5051.6	5056.8	5057.2
2.5°	5059.6	5057.7	5050.2	5043.1	5048.3	5048.3
3°	5052.1	5049.7	5040.3	5031.8	5039.3	5039.3
3.5°	5043.6	5039.8	5029.4	5020.9	5028.9	5028.0
4°	5033.2	5029.4	5017.1	5007.2	5016.7	5015.7
4.5°	5020.9	5015.7	5003.0	4993.6	5002.5	5000.6
5°	5007.7	5001.1	4987.9	4977.0	4987.4	4984.1
5.5°	4992.1	4985.1	4970.4	4959.6	4969.5	4965.7
6°	4975.2	4967.1	4951.6	4941.7	4950.6	4945.4
6.5°	4955.8	4946.9	4931.3	4920.0	4929.4	4924.2
7°	4935.1	4924.7	4908.2	4896.8	4906.8	4900.1
7.5°	4911.5	4901.1	4884.6	4872.8	4883.2	4875.6
8°	4887.4	4874.7	4857.2	4846.4	4857.2	4848.7
8.5°	4860.5	4846.4	4828.9	4818.5	4830.8	4819.9
9°	4831.7	4814.8	4798.7	4789.3	4800.6	4787.4
9.5°	4801.1	4782.7	4766.6	4758.6	4769.5	4755.3
10°	4769.0	4749.7	4732.2	4723.2	4736.9	4724.7
10.5°	4736.0	4714.3	4696.3	4692.1	4704.4	4690.7
11°	4701.1	4679.4	4661.0	4655.3	4670.9	4657.2
11.5°	4666.2	4641.6	4623.7	4616.2	4636.0	4622.3
12°	4628.4	4604.4	4585.0	4574.6	4599.6	4588.8
12.5°	4591.6	4568.0	4545.9	4534.5	4563.3	4553.9
13°	4553.9	4530.8	4506.2	4491.6	4527.0	4517.1
13.5°	4515.7	4494.0	4467.5	4448.2	4489.2	4480.3
14°	4477.0	4456.2	4427.0	4402.4	4450.1	4443.0
14.5°	4437.8	4419.0	4388.3	4358.1	4411.4	4404.8
15°	4399.1	4378.4	4347.2	4311.9	4371.3	4366.6
15.5°	4359.5	4338.3	4305.3	4266.1	4329.8	4327.9
16°	4318.5	4298.2	4262.3	4219.9	4288.8	4285.9
16.5°	4276.5	4256.7	4220.3	4174.1	4246.8	4244.4
17°	4232.6	4212.8	4176.5	4127.4	4202.9	4201.0
17.5°	4190.2	4169.4	4131.7	4081.6	4159.0	4155.2
18°	4144.9	4121.7	4085.0	4035.4	4113.7	4105.7
18.5°	4099.6	4072.7	4038.2	3988.2	4066.6	4054.3
19°	4051.9	4024.6	3989.2	3941.5	4016.5	4001.9
19.5°	4002.4	3974.6	3939.2	3894.4	3964.7	3952.4
20°	3952.9	3922.7	3889.2	3844.4	3911.8	3901.0
20.5°	3901.0	3872.2	3836.3	3796.2	3859.0	3851.0
21°	3849.5	3819.8	3784.4	3747.2	3804.3	3801.9

TEST NUMBER: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3691.5	3663.7	3621.7	3598.6	3642.9	3648.6
23°	3635.8	3611.8	3566.5	3547.6	3589.1	3589.1
23.5°	3581.6	3558.5	3511.3	3495.7	3536.8	3526.4
24°	3526.9	3498.6	3457.0	3441.5	3481.1	3466.5
24.5°	3472.1	3435.3	3401.4	3384.4	3422.1	3414.6
25°	3417.9	3375.9	3343.3	3327.8	3359.9	3362.7
25.5°	3363.2	3324.5	3283.0	3271.2	3297.1	3311.3
26°	3299.9	3274.0	3219.3	3213.6	3233.4	3257.0
26.5°	3236.3	3211.3	3159.4	3153.7	3178.2	3189.6
27°	3176.8	3143.3	3106.1	3096.1	3124.5	3124.5
27.5°	3121.6	3081.5	3052.3	3035.8	3072.1	3057.5
28°	3068.3	3003.2	2989.1	2976.8	3016.9	2976.8
28.5°	3007.5	2923.5	2920.2	2918.8	2954.6	2893.8
29°	2936.7	2841.9	2858.4	2862.6	2887.2	2812.6
29.5°	2874.4	2761.7	2783.4	2806.0	2824.9	2732.4
30°	2798.0	2681.9	2704.6	2749.4	2751.8	2651.8
30.5°	2723.0	2603.6	2623.9	2690.9	2676.3	2571.1
31°	2641.8	2524.8	2545.6	2631.0	2598.4	2490.9
31.5°	2564.0	2446.1	2468.2	2565.4	2519.7	2412.1
32°	2488.1	2369.2	2392.3	2501.3	2442.3	2334.3
32.5°	2413.5	2292.7	2314.9	2440.4	2365.9	2255.0
33°	2335.2	2214.9	2242.7	2385.2	2292.7	2173.4
33.5°	2263.0	2134.7	2169.1	2338.0	2218.2	2092.7
34°	2188.0	2053.1	2096.5	2292.3	2144.6	2012.0
34.5°	2117.2	1971.0	2020.5	2231.9	2069.6	1929.0
35°	2040.8	1888.9	1947.9	2176.2	1997.4	1845.5
35.5°	1968.2	1808.2	1871.5	2119.1	1923.4	1763.0
36°	1891.7	1728.0	1796.5	2045.5	1850.7	1679.0
36.5°	1819.6	1653.0	1720.0	1976.2	1775.7	1604.9
37°	1741.3	1578.0	1647.9	1903.1	1703.5	1530.9
37.5°	1665.3	1503.5	1575.7	1824.3	1631.8	1456.8
38°	1589.8	1428.5	1504.0	1745.0	1559.6	1382.3
38.5°	1516.7	1353.9	1432.3	1664.8	1487.9	1311.5
39°	1445.0	1285.5	1360.5	1594.1	1416.2	1242.1
39.5°	1376.1	1217.6	1293.1	1523.8	1344.5	1171.8
40°	1307.7	1148.3	1229.9	1453.0	1279.4	1104.4
40.5°	1242.6	1078.9	1165.2	1382.7	1214.3	1035.5
41°	1179.4	1014.3	1103.4	1316.2	1152.0	969.0
41.5°	1117.1	944.9	1041.6	1251.6	1088.8	903.9
42°	1055.8	884.5	980.8	1188.4	1028.9	840.7
42.5°	994.5	823.2	920.9	1127.5	969.5	779.8
43°	934.6	766.1	861.4	1066.2	912.9	722.7
43.5°	876.5	707.2	804.3	1006.7	855.3	667.5



TEST NUMBER: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	711.4	553.8	646.3	834.1	692.1	515.6
45.5°	660.5	504.8	598.2	780.8	642.5	468.5
46°	611.9	460.4	552.4	727.9	593.9	424.6
46.5°	565.2	417.0	508.1	679.3	548.7	382.6
47°	520.3	375.5	465.6	631.7	504.3	342.5
47.5°	477.9	335.9	423.6	586.9	460.9	305.7
48°	439.2	301.9	384.5	543.0	421.3	271.7
48.5°	400.5	268.4	347.7	503.4	382.1	240.6
49°	361.8	238.7	312.8	464.7	345.3	212.8
49.5°	323.6	211.8	280.7	428.8	309.5	187.3
50°	290.1	186.8	250.0	392.5	279.3	164.6
50.5°	259.0	164.2	222.2	359.5	249.6	147.7
51°	231.6	147.7	197.2	326.9	221.3	130.7
51.5°	205.2	131.1	175.0	297.7	194.8	113.7
52°	180.7	115.1	158.5	269.8	172.7	96.7
52.5°	159.0	98.6	142.0	243.0	155.7	83.5
53°	139.6	85.4	125.5	217.5	138.7	71.2
53.5°	122.7	73.1	109.0	194.8	121.7	59.4
54°	107.1	61.3	92.5	173.6	104.7	48.6
54.5°	93.4	50.5	80.7	156.6	87.7	37.3
55°	81.1	39.6	68.9	140.1	75.5	27.4
55.5°	69.3	29.2	58.0	123.1	64.6	19.8
56°	60.4	21.7	46.7	106.6	53.8	17.9
56.5°	51.4	15.6	36.8	89.6	43.9	16.0
57°	42.5	14.6	26.9	76.9	34.4	14.2
57.5°	33.5	13.7	19.3	66.0	25.5	12.3
58°	24.5	13.2	17.5	56.1	17.9	10.4
58.5°	15.6	12.3	15.6	47.2	16.0	9.9
59°	12.3	11.8	14.2	39.6	14.2	9.4
59.5°	11.3	11.3	12.3	33.0	11.8	9.4
60°	10.9	10.4	10.9	27.4	9.9	9.0
60.5°	10.4	9.9	10.4	22.6	9.4	8.5
61°	9.9	9.4	9.9	18.9	9.0	8.0
61.5°	9.4	9.0	9.4	16.5	8.5	8.0
62°	9.0	9.0	9.0	14.2	8.0	7.5
62.5°	8.5	8.5	8.5	11.8	8.0	7.1
63°	8.0	8.0	8.0	9.4	7.5	7.1
63.5°	7.5	7.5	7.5	8.0	7.1	6.6
64°	7.5	7.1	7.5	7.1	7.1	6.6
64.5°	7.1	7.1	7.1	7.1	6.6	6.1
65°	6.6	6.6	6.6	6.6	6.6	6.1
65.5°	6.6	6.6	6.6	6.6	6.1	5.7
66°	6.1	6.1	6.1	6.1	6.1	5.7



TEST NUMBER: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	5.7	5.2	5.7	5.2	5.2	4.7
68°	5.2	5.2	5.2	5.2	5.2	4.7
68.5°	5.2	4.7	5.2	4.7	4.7	4.2
69°	4.7	4.7	4.7	4.7	4.7	4.2
69.5°	4.7	4.7	4.7	4.7	4.2	4.2
70°	4.2	4.2	4.2	4.2	4.2	3.8
70.5°	4.2	4.2	4.2	4.2	4.2	3.8
71°	3.8	3.8	3.8	3.8	3.8	3.3
71.5°	3.8	3.8	3.8	3.8	3.8	3.3
72°	3.8	3.8	3.8	3.8	3.3	3.3
72.5°	3.3	3.3	3.3	3.3	3.3	2.8
73°	3.3	3.3	3.3	3.3	3.3	2.8
73.5°	3.3	3.3	3.3	3.3	2.8	2.8
74°	2.8	2.8	2.8	2.8	2.8	2.4
74.5°	2.8	2.8	2.8	2.8	2.8	2.4
75°	2.8	2.8	2.8	2.8	2.4	2.4
75.5°	2.4	2.4	2.4	2.4	2.4	2.4
76°	2.4	2.4	2.4	2.4	2.4	1.9
76.5°	2.4	2.4	2.4	2.4	2.4	1.9
77°	2.4	1.9	2.4	2.4	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9
78°	1.9	1.9	1.9	1.9	1.9	1.4
78.5°	1.9	1.9	1.9	1.9	1.4	1.4
79°	1.4	1.4	1.9	1.9	1.4	1.4
79.5°	1.4	1.4	1.4	1.4	1.4	1.4
80°	1.4	1.4	1.4	1.4	1.4	0.9
80.5°	1.4	1.4	1.4	1.4	0.9	0.9
81°	1.4	1.4	1.4	1.4	0.9	0.9
81.5°	0.9	0.9	0.9	0.9	0.9	0.9
82°	0.9	0.9	0.9	0.9	0.9	0.9
82.5°	0.9	0.9	0.9	0.9	0.5	0.5
83°	0.9	0.9	0.9	0.9	0.5	0.5
83.5°	0.9	0.9	0.9	0.9	0.5	0.5
84°	0.5	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	0.0	0.5
85.5°	0.5	0.5	0.5	0.5	0.0	0.0
86°	0.5	0.5	0.5	0.5	0.0	0.0
86.5°	0.5	0.5	0.5	0.5	0.0	0.0
87°	0.0	0.5	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: P776622

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQC-5000lm-3500K

CANDELA DISTRIBUTION (continued):

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



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

Scaled Data Report





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

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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	3753.8	3753.3	3756.6	3779.7	3796.2	3850.0	3854.7	3843.9	3862.3	3864.2	3810.4
22°	3703.3	3700.0	3708.5	3728.8	3750.0	3797.7	3806.1	3793.9	3812.7	3811.8	3761.8



44°	614.2	735.5	1022.8	902.5	742.5	897.3	1171.8	915.7	762.8	886.9	1080.3
44.5°	562.8	682.2	959.1	849.6	685.0	840.7	1108.2	861.0	706.2	832.7	1017.6



66.5°	5.2	5.7	5.7	5.7	5.2	5.2	5.2	4.7	4.7	5.2	5.7
67°	5.2	5.2	5.2	5.2	4.7	5.2	5.2	4.7	4.2	4.7	5.2



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°	3797.7	3766.0	3730.7	3697.2	3750.9	3753.8
22°	3744.3	3715.1	3676.9	3648.6	3697.2	3703.3



44°	819.9	654.8	749.6	947.3	797.7	614.2
44.5°	763.8	603.9	697.7	890.7	743.0	562.8



66.5°	6.1	5.7	6.1	5.7	5.7	5.2
67°	5.7	5.7	5.7	5.7	5.7	5.2

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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)