

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: P776595

Luminaire Tested: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776595  
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-HCD4TRC-5000lm-2700K  
Description: 4 INCH ROUND MEDIUM SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

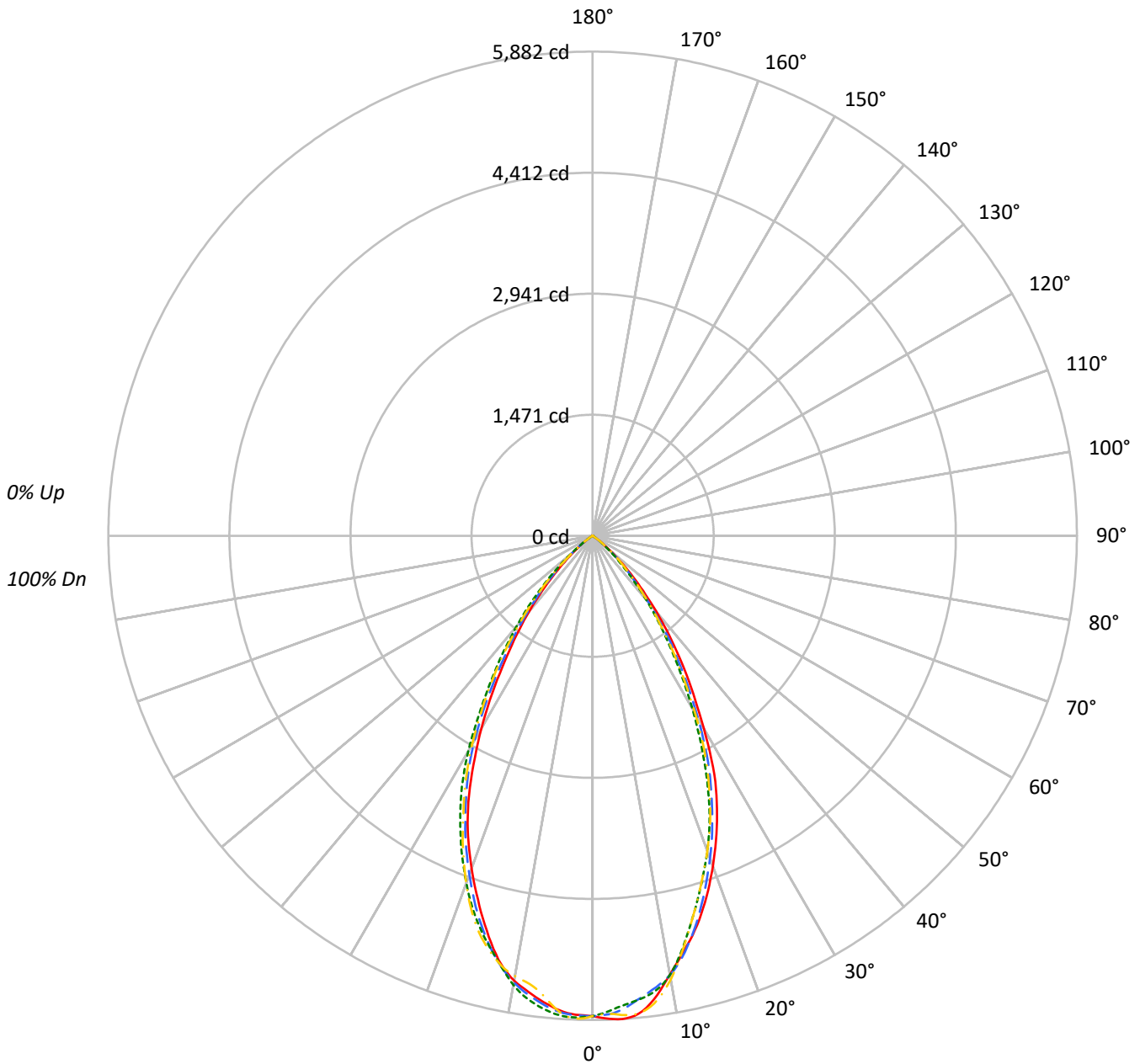
Lumens per Lamp: N/A  
Luminaire Lumens: 5309.2 lumens  
Efficiency: N/A  
Efficacy: 110.6 lumens/watt  
Spacing Criteria (0/90/45): 0.87 / 0.87 / 0.88  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



TEST NUMBER: P776595  
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

### 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								
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93								
2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86								
3	102	95	90	86	100	94	89	86	91	87	84	89	86	83	87	84	82	80								
4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74								
5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69								
6	87	78	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64								
7	82	73	66	62	81	72	66	62	71	65	62	69	65	61	68	64	61	60								
8	78	68	62	58	77	68	62	58	67	61	57	66	61	57	65	60	57	56								
9	74	64	58	54	73	64	58	54	63	58	54	62	57	54	61	57	53	52								
10	71	61	55	51	70	60	54	51	59	54	50	59	54	50	58	53	50	49								

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

	0°	90°	180°	270°
0°	734472	734472	734472	734472
5°	739463	717759	725188	734220
10°	691517	691862	701242	708117
15°	638404	618757	647134	659016
20°	571759	545443	575777	600808
25°	495355	457252	495799	528195
30°	392085	351090	392027	438645
35°	289462	250746	285959	330928
40°	197668	165320	195943	236226
45°	116238	90288	114458	147722
50°	49436	40156	53274	71658
55°	10005	9808	16895	21107
60°	1611	1938	1837	2517
65°	953	1072	953	1489
70°	515	662	662	846
75°	243	438	438	681
80°	0	362	362	362
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 270°  
 Vertical Angle: 45°  
 Luminance: 147722 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	540.3	10.2
10°-20°	1373.5	25.9
20°-30°	1611.2	30.3
30°-40°	1179.4	22.2
40°-50°	520.3	9.8
50°-60°	79.5	1.5
60°-70°	4.0	0.1
70°-80°	1.0	0.0
80°-90°	0.1	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°	3524.9	66.4
0°-40°	4704.4	88.6
0°-60°	5304.2	99.9
0°-90°	5309.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5309.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	5836	5836	5836	5836	5836	
5°	5853	5682	5740	5812	5853	544
15°	4900	4749	4967	5058	4900	1365
25°	3567	3293	3570	3804	3567	1615
35°	1884	1632	1861	2154	1884	1178
45°	653	507	643	830	653	513
55°	46	45	77	96	46	65
65°	3	4	3	5	3	3
75°	0	1	1	1	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1
0.5°	5847.0	5839.3	5831.5	5830.2	5821.5	5821.5	5826.1	5829.3	5832.4	5833.8	5834.7
1°	5856.6	5842.0	5827.9	5820.6	5809.2	5810.1	5817.9	5823.3	5827.9	5831.1	5834.3
1.5°	5865.3	5845.2	5822.9	5808.3	5793.7	5801.0	5812.4	5820.6	5824.7	5827.4	5832.4
2°	5873.0	5847.0	5815.6	5792.8	5776.4	5791.9	5812.4	5822.4	5821.5	5822.9	5828.8
2.5°	5878.9	5846.1	5804.2	5771.8	5758.6	5784.1	5816.5	5826.5	5815.6	5814.7	5824.2
3°	5882.1	5841.1	5789.6	5749.0	5740.4	5779.6	5823.3	5830.6	5807.4	5802.4	5817.4
3.5°	5881.7	5832.0	5770.0	5724.4	5724.0	5776.4	5832.0	5834.3	5794.2	5786.0	5809.7
4°	5877.1	5817.9	5746.8	5698.0	5708.5	5774.1	5838.4	5834.7	5778.7	5765.9	5798.7
4.5°	5868.0	5798.3	5719.9	5673.4	5694.8	5771.4	5841.1	5832.0	5760.9	5741.7	5784.1
5°	5853.4	5774.6	5692.5	5650.1	5681.6	5766.4	5838.4	5823.3	5740.4	5714.9	5766.8
5.5°	5832.0	5747.2	5665.6	5628.3	5668.4	5757.7	5829.7	5811.0	5718.0	5685.2	5746.8
6°	5805.1	5715.8	5639.2	5609.6	5654.7	5744.0	5814.2	5792.8	5695.3	5657.0	5725.3
6.5°	5770.5	5682.5	5613.7	5591.8	5639.2	5727.2	5792.8	5770.9	5671.1	5628.3	5703.0
7°	5729.4	5646.0	5590.0	5574.5	5620.5	5703.5	5765.0	5743.1	5647.4	5603.6	5679.8
7.5°	5683.9	5606.8	5564.0	5557.2	5599.1	5672.5	5731.7	5712.1	5622.3	5578.6	5655.6
8°	5634.2	5565.4	5538.5	5538.5	5573.6	5636.0	5688.9	5675.7	5596.4	5556.2	5630.1
8.5°	5581.8	5518.9	5511.6	5517.1	5543.0	5594.5	5641.5	5636.0	5570.8	5537.1	5604.1
9°	5524.3	5472.8	5482.9	5492.0	5505.7	5544.4	5588.6	5592.3	5543.9	5519.8	5574.5
9.5°	5466.9	5425.9	5451.4	5462.8	5463.3	5489.7	5532.5	5543.5	5517.5	5502.0	5543.5
10°	5411.3	5378.5	5416.8	5429.1	5414.0	5430.5	5469.2	5491.5	5487.4	5482.9	5508.8
10.5°	5357.5	5330.2	5378.0	5388.5	5360.3	5364.8	5404.5	5435.0	5454.2	5462.4	5473.8
11°	5305.6	5281.9	5335.2	5338.4	5302.8	5296.5	5334.3	5375.8	5415.9	5439.6	5434.6
11.5°	5255.0	5231.3	5286.0	5288.7	5236.3	5228.6	5263.6	5312.0	5374.4	5410.9	5393.5
12°	5204.4	5179.8	5232.7	5229.9	5168.4	5148.3	5185.7	5245.0	5327.9	5378.0	5349.8
12.5°	5154.7	5126.9	5178.0	5164.3	5099.6	5074.5	5113.7	5175.7	5276.9	5337.9	5301.5
13°	5106.4	5074.5	5118.7	5097.7	5030.3	5008.0	5039.0	5106.4	5218.1	5291.4	5251.8
13.5°	5058.1	5017.5	5059.5	5034.9	4959.6	4928.7	4965.6	5036.2	5158.8	5242.2	5200.3
14°	5007.0	4959.2	4997.9	4964.7	4888.1	4858.9	4892.2	4965.1	5098.2	5185.7	5147.0
14.5°	4953.7	4899.5	4935.5	4895.4	4817.5	4791.0	4822.9	4896.8	5033.9	5126.9	5091.4
15°	4899.9	4838.9	4869.9	4825.7	4749.1	4719.5	4749.1	4828.4	4966.9	5066.3	5032.6
15.5°	4843.4	4775.1	4803.8	4755.0	4680.3	4649.3	4681.2	4760.0	4901.8	5004.8	4973.3
16°	4785.5	4712.2	4735.4	4684.4	4611.9	4582.3	4609.2	4693.5	4834.8	4939.1	4913.2
16.5°	4722.7	4645.6	4667.0	4615.1	4542.6	4515.7	4540.8	4629.7	4769.6	4873.5	4851.6
17°	4662.5	4580.0	4596.4	4544.4	4477.0	4447.4	4472.4	4561.3	4704.0	4807.4	4788.3
17.5°	4598.2	4511.6	4526.7	4474.3	4409.1	4381.7	4407.3	4496.1	4634.2	4739.5	4722.2
18°	4534.0	4444.2	4455.1	4404.5	4340.7	4313.8	4335.7	4431.9	4568.1	4671.1	4656.1
18.5°	4468.3	4374.4	4384.0	4334.3	4272.8	4247.7	4268.3	4366.7	4503.4	4599.6	4587.7
19°	4403.2	4306.5	4310.2	4262.8	4206.7	4181.7	4201.7	4299.7	4435.5	4531.2	4519.4
19.5°	4336.2	4236.8	4240.9	4192.6	4139.7	4118.3	4138.4	4236.3	4368.1	4459.2	4449.6
20°	4269.2	4169.8	4168.0	4123.3	4072.7	4052.7	4070.4	4171.6	4299.2	4388.1	4379.9
20.5°	4201.3	4100.5	4096.9	4053.1	4006.2	3988.0	4004.4	4105.1	4231.3	4316.1	4309.3
21°	4133.3	4029.4	4024.9	3982.0	3935.1	3920.5	3938.7	4040.4	4162.1	4245.5	4237.7



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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°	3926.4	3812.9	3797.0	3753.7	3711.3	3707.7	3733.2	3839.4	3954.2	4031.7	4025.3
23°	3856.7	3737.3	3719.1	3674.8	3631.1	3629.7	3657.1	3766.9	3885.0	3961.1	3955.6
23.5°	3785.1	3663.0	3640.7	3593.3	3546.8	3555.4	3581.9	3693.5	3808.8	3886.3	3881.3
24°	3712.7	3586.9	3563.2	3510.3	3462.0	3475.2	3502.6	3614.2	3730.9	3811.1	3804.3
24.5°	3641.6	3511.7	3484.3	3424.2	3377.2	3395.0	3422.8	3533.6	3649.3	3733.6	3729.1
25°	3567.3	3433.3	3405.9	3339.9	3292.9	3314.8	3343.5	3452.9	3570.5	3655.2	3657.1
25.5°	3493.9	3357.2	3327.6	3253.3	3208.1	3234.1	3263.7	3372.7	3484.8	3575.9	3577.8
26°	3418.2	3280.2	3248.7	3165.8	3119.3	3145.2	3184.0	3292.0	3398.7	3496.2	3503.0
26.5°	3338.5	3200.4	3168.5	3078.2	3029.5	3061.8	3103.3	3211.3	3313.0	3416.9	3428.3
27°	3251.9	3117.0	3087.4	2991.7	2941.1	2971.1	3018.1	3124.3	3226.8	3337.1	3353.5
27.5°	3163.9	3034.9	3000.3	2906.4	2852.6	2882.3	2938.3	3034.0	3135.7	3257.8	3278.8
28°	3073.7	2947.9	2912.8	2821.2	2762.9	2793.8	2849.0	2942.0	3044.5	3178.5	3203.6
28.5°	2980.3	2858.1	2826.2	2735.1	2674.9	2704.5	2761.5	2851.7	2957.5	3092.4	3122.0
29°	2885.0	2768.8	2737.8	2651.2	2587.8	2615.2	2673.5	2760.1	2870.9	3006.2	3038.1
29.5°	2789.3	2676.7	2648.5	2567.3	2501.7	2525.9	2582.8	2674.0	2784.7	2919.2	2951.5
30°	2698.1	2585.1	2561.9	2483.9	2416.0	2436.1	2490.3	2582.8	2697.7	2830.8	2863.6
30.5°	2608.8	2492.6	2475.7	2401.0	2329.9	2349.0	2402.8	2493.5	2611.1	2741.9	2774.7
31°	2521.3	2397.8	2389.6	2314.8	2246.9	2261.1	2313.5	2408.7	2523.6	2656.2	2684.9
31.5°	2436.5	2308.5	2306.2	2231.9	2164.0	2176.3	2226.4	2325.3	2436.5	2571.4	2597.0
32°	2351.8	2222.8	2223.7	2149.4	2082.4	2098.3	2140.3	2240.5	2352.7	2486.7	2508.5
32.5°	2272.9	2138.0	2142.6	2065.5	2003.1	2017.2	2060.1	2160.3	2266.5	2403.7	2420.6
33°	2196.3	2055.5	2063.3	1982.6	1924.2	1939.3	1977.6	2079.7	2181.8	2320.3	2334.4
33.5°	2118.4	1973.9	1984.9	1906.5	1847.2	1866.8	1899.2	2000.8	2098.3	2240.5	2244.6
34°	2039.6	1896.0	1906.9	1830.4	1773.8	1787.1	1822.2	1924.2	2017.2	2161.2	2158.5
34.5°	1960.3	1820.8	1831.7	1754.7	1701.8	1714.6	1746.0	1848.1	1937.5	2082.4	2075.6
35°	1884.1	1746.5	1755.2	1683.1	1632.1	1649.0	1672.7	1773.8	1861.3	2004.5	1995.3
35.5°	1809.8	1674.9	1679.0	1625.7	1563.3	1577.0	1601.6	1702.7	1788.0	1925.6	1913.8
36°	1733.7	1633.0	1628.9	1556.0	1497.6	1503.1	1533.2	1630.3	1719.2	1848.1	1835.8
36.5°	1662.6	1558.7	1552.8	1486.7	1432.9	1439.8	1466.7	1562.8	1649.9	1771.1	1759.7
37°	1595.6	1484.0	1476.2	1417.0	1368.7	1372.8	1400.6	1493.5	1582.0	1695.5	1688.2
37.5°	1529.1	1409.2	1399.2	1347.7	1306.2	1307.6	1338.6	1424.7	1517.2	1622.5	1615.2
38°	1462.6	1334.9	1322.6	1283.4	1243.8	1245.6	1277.5	1362.7	1449.8	1549.1	1546.4
38.5°	1395.6	1271.6	1252.9	1220.1	1181.8	1184.5	1217.4	1300.8	1386.4	1480.8	1478.1
39°	1329.0	1211.0	1191.4	1155.8	1122.1	1127.6	1159.0	1234.2	1320.8	1412.0	1411.1
39.5°	1265.2	1150.8	1128.9	1093.8	1062.8	1070.6	1100.2	1174.5	1257.0	1345.4	1343.6
40°	1203.2	1090.2	1069.2	1032.8	1006.3	1015.0	1044.2	1116.2	1192.7	1278.4	1279.8
40.5°	1141.7	1032.3	1007.2	971.7	947.5	961.7	990.4	1056.9	1133.9	1214.6	1216.9
41°	1080.2	977.2	952.6	913.8	894.2	908.8	938.0	1000.4	1072.0	1151.3	1155.4
41.5°	1021.8	922.0	897.4	858.2	839.5	858.2	887.8	945.3	1012.7	1089.7	1093.8
42°	963.5	868.7	844.1	804.0	787.6	809.4	838.6	892.4	956.2	1028.7	1036.0
42.5°	907.9	816.7	790.3	751.6	736.5	761.6	791.7	840.9	901.5	970.8	978.1
43°	853.7	764.3	742.4	702.3	687.3	715.6	747.5	789.8	848.6	912.9	922.5
43.5°	801.7	714.6	694.6	654.0	640.4	670.4	702.8	742.0	795.3	857.3	868.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	653.1	576.1	561.0	519.6	507.3	546.9	578.8	607.5	643.1	703.2	718.7
45.5°	606.6	532.3	520.0	479.5	468.1	509.5	540.1	565.2	595.7	656.3	671.8
46°	561.0	491.8	481.3	440.7	434.8	472.6	502.7	525.0	550.6	610.7	625.3
46.5°	515.9	452.6	444.4	404.7	401.5	439.8	466.7	487.2	505.4	567.4	581.6
47°	472.2	414.7	408.8	371.0	367.8	407.0	434.8	450.3	464.4	525.0	541.0
47.5°	430.2	378.7	374.6	339.1	334.5	374.2	403.4	417.5	431.2	484.9	500.4
48°	392.0	344.1	342.3	309.9	301.7	341.4	371.4	384.7	397.9	450.8	460.8
48.5°	353.7	311.3	311.7	282.6	275.3	309.0	339.5	351.9	364.6	416.6	425.7
49°	317.7	280.8	282.6	256.1	250.7	281.2	307.6	319.0	330.9	381.9	390.6
49.5°	284.4	251.6	255.2	232.4	227.4	254.3	278.5	290.3	298.1	347.7	355.5
50°	252.5	223.8	228.3	210.1	205.1	228.8	252.0	262.5	272.1	313.6	320.9
50.5°	223.8	197.3	203.7	188.7	184.1	204.6	226.1	237.5	247.9	284.4	290.8
51°	196.4	172.7	180.5	167.7	164.5	181.4	201.9	214.2	224.7	257.1	262.5
51.5°	170.5	153.1	157.7	150.4	145.8	160.0	178.2	191.4	202.8	232.0	234.3
52°	150.4	133.5	139.0	133.1	127.6	139.9	157.2	170.0	182.3	208.3	208.3
52.5°	130.8	113.9	120.8	115.8	109.8	120.8	135.8	149.5	162.7	185.5	183.2
53°	111.2	94.3	102.5	98.0	93.4	102.5	116.7	130.3	144.5	164.1	160.4
53.5°	91.6	74.7	84.3	81.1	77.9	86.1	98.9	111.7	125.3	144.0	138.6
54°	72.0	60.6	69.3	66.5	64.7	71.1	82.0	94.8	107.6	124.9	118.5
54.5°	57.9	48.3	56.1	53.8	54.7	60.2	67.5	78.8	91.2	106.2	100.3
55°	45.6	36.0	43.8	41.5	44.7	49.2	56.5	65.2	77.0	89.8	82.9
55.5°	33.3	25.1	31.9	30.1	34.6	38.3	46.0	54.7	66.1	74.7	67.9
56°	22.8	16.9	21.9	21.0	24.6	27.3	35.5	44.2	55.6	62.9	57.4
56.5°	15.0	14.6	15.0	15.0	15.0	16.9	25.1	33.7	44.7	51.5	46.5
57°	13.2	12.8	13.7	13.7	12.8	12.8	14.6	23.7	33.7	40.1	36.0
57.5°	11.4	10.5	11.8	12.3	11.4	11.4	11.4	13.2	23.2	28.7	25.5
58°	9.6	8.7	10.5	10.9	10.5	10.0	10.0	10.5	12.3	17.3	15.0
58.5°	8.2	7.7	9.1	9.6	9.6	9.6	9.1	9.1	10.0	12.3	11.4
59°	7.3	7.3	8.2	8.7	8.7	8.7	8.2	8.2	8.7	10.0	10.0
59.5°	6.8	6.8	7.7	8.2	8.2	8.2	7.7	7.7	7.7	8.7	9.1
60°	6.4	5.9	6.8	7.3	7.7	7.3	7.3	6.8	7.3	7.7	8.2
60.5°	5.9	5.5	6.4	6.8	7.3	6.8	6.4	6.4	6.8	7.3	7.7
61°	5.5	5.5	5.9	6.4	6.4	6.4	5.9	5.9	5.9	6.8	6.8
61.5°	5.0	5.0	5.5	5.9	6.4	5.9	5.5	5.5	5.5	5.9	6.4
62°	4.6	4.6	5.0	5.5	5.9	5.5	5.5	5.0	5.0	5.5	5.9
62.5°	4.1	4.1	5.0	5.5	5.5	5.0	5.0	5.0	5.0	5.5	5.5
63°	4.1	4.1	4.6	5.0	5.0	5.0	4.6	4.6	4.6	5.0	5.0
63.5°	3.6	3.6	4.1	4.6	4.6	4.6	4.1	4.1	4.1	4.6	5.0
64°	3.6	3.6	4.1	4.1	4.6	4.1	4.1	4.1	4.1	4.1	4.6
64.5°	3.2	3.2	3.6	4.1	4.1	4.1	3.6	3.6	3.6	4.1	4.1
65°	3.2	3.2	3.6	3.6	3.6	3.6	3.6	3.2	3.2	3.6	4.1
65.5°	2.7	2.7	3.2	3.6	3.6	3.6	3.2	3.2	3.2	3.6	3.6
66°	2.7	2.7	3.2	3.2	3.2	3.2	3.2	2.7	2.7	3.2	3.2





TEST NUMBER: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	2.3	2.3	2.3	2.7	2.7	2.7	2.7	2.3	2.3	2.7	2.7
68°	1.8	1.8	2.3	2.7	2.7	2.3	2.3	2.3	2.3	2.3	2.7
68.5°	1.8	1.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
69°	1.8	1.8	1.8	2.3	2.3	2.3	1.8	1.8	1.8	2.3	2.3
69.5°	1.4	1.4	1.8	2.3	2.3	1.8	1.8	1.8	1.8	1.8	2.3
70°	1.4	1.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
70.5°	1.4	1.4	1.8	1.8	1.8	1.8	1.8	1.4	1.4	1.8	1.8
71°	1.4	1.4	1.4	1.8	1.8	1.8	1.4	1.4	1.4	1.8	1.8
71.5°	0.9	0.9	1.4	1.4	1.8	1.4	1.4	1.4	1.4	1.4	1.8
72°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	0.9	0.9	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
73°	0.9	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	1.4	1.4
73.5°	0.9	0.9	0.9	1.4	1.4	1.4	0.9	0.9	0.9	0.9	1.4
74°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
74.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75.5°	0.5	0.5	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.5	0.5	0.5	0.9	0.9	0.9	0.9	0.5	0.5	0.9	0.9
76.5°	0.5	0.5	0.5	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.9
77°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5
81°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.5
81.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	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	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: P776595  
CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-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: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	5836.1	5836.1	5836.1	5836.1	5836.1	5836.1
0.5°	5841.6	5841.1	5845.2	5849.8	5850.2	5847.0
1°	5844.7	5847.9	5854.8	5861.2	5862.1	5856.6
1.5°	5846.6	5853.0	5860.7	5868.0	5871.6	5865.3
2°	5847.9	5855.7	5861.2	5870.3	5878.5	5873.0
2.5°	5848.9	5855.2	5856.1	5865.7	5880.8	5878.9
3°	5848.4	5852.0	5842.9	5851.6	5878.0	5882.1
3.5°	5847.9	5846.6	5822.4	5830.2	5868.9	5881.7
4°	5847.5	5837.9	5796.0	5797.8	5853.9	5877.1
4.5°	5845.2	5826.5	5762.7	5759.5	5832.4	5868.0
5°	5841.6	5811.9	5723.1	5716.7	5804.2	5853.4
5.5°	5837.5	5794.6	5683.0	5670.6	5771.4	5832.0
6°	5831.1	5775.0	5642.4	5627.3	5739.5	5805.1
6.5°	5820.1	5754.5	5603.2	5587.2	5706.2	5770.5
7°	5804.2	5732.2	5569.5	5552.6	5666.5	5729.4
7.5°	5783.2	5708.5	5542.1	5523.4	5629.6	5683.9
8°	5753.6	5681.6	5518.9	5499.3	5590.4	5634.2
8.5°	5718.0	5652.9	5499.3	5481.0	5549.9	5581.8
9°	5677.9	5619.6	5481.5	5463.3	5507.9	5524.3
9.5°	5631.4	5582.2	5467.8	5446.9	5467.4	5466.9
10°	5578.1	5541.2	5450.1	5430.0	5425.0	5411.3
10.5°	5526.2	5495.6	5430.9	5412.2	5383.1	5357.5
11°	5470.6	5448.2	5409.5	5391.3	5339.8	5305.6
11.5°	5412.7	5398.6	5384.4	5367.1	5297.8	5255.0
12°	5358.4	5349.3	5353.4	5337.9	5255.4	5204.4
12.5°	5306.0	5299.7	5320.6	5304.2	5213.1	5154.7
13°	5252.3	5250.0	5285.5	5270.0	5172.5	5106.4
13.5°	5198.9	5202.1	5246.8	5231.7	5128.3	5058.1
14°	5147.4	5153.8	5206.2	5191.6	5082.7	5007.0
14.5°	5095.5	5107.3	5164.7	5150.2	5035.3	4953.7
15°	5042.6	5058.1	5118.3	5105.5	4986.1	4899.9
15.5°	4990.2	5010.2	5070.4	5059.9	4932.8	4843.4
16°	4933.7	4959.2	5019.8	5009.3	4878.5	4785.5
16.5°	4878.1	4907.2	4968.3	4954.6	4822.9	4722.7
17°	4816.5	4852.1	4913.6	4898.1	4764.1	4662.5
17.5°	4756.8	4796.5	4854.4	4837.0	4703.5	4598.2
18°	4693.0	4737.7	4791.0	4772.8	4641.1	4534.0
18.5°	4629.7	4677.1	4727.7	4704.9	4574.1	4468.3
19°	4562.7	4613.3	4660.2	4633.8	4509.4	4403.2
19.5°	4496.6	4552.2	4592.3	4561.3	4442.8	4336.2
20°	4427.8	4486.1	4524.4	4490.2	4374.9	4269.2
20.5°	4361.2	4422.8	4450.6	4416.4	4306.1	4201.3
21°	4292.4	4354.8	4380.8	4341.6	4237.3	4133.3

TEST NUMBER: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	4089.6	4155.2	4165.7	4112.8	4024.4	3926.4
23°	4018.9	4087.3	4090.5	4036.3	3952.4	3856.7
23.5°	3948.3	4016.7	4013.9	3957.4	3875.8	3785.1
24°	3879.9	3946.9	3938.7	3875.4	3802.0	3712.7
24.5°	3810.2	3875.8	3860.8	3795.2	3724.5	3641.6
25°	3737.7	3803.8	3780.1	3715.9	3651.1	3567.3
25.5°	3667.6	3731.8	3703.6	3637.5	3570.9	3493.9
26°	3597.4	3658.9	3627.9	3561.4	3496.6	3418.2
26.5°	3523.1	3586.4	3550.9	3483.4	3419.2	3338.5
27°	3448.3	3512.6	3475.2	3407.8	3340.8	3251.9
27.5°	3374.0	3436.9	3397.3	3330.7	3255.5	3163.9
28°	3299.3	3357.6	3318.4	3252.3	3178.5	3073.7
28.5°	3225.0	3275.1	3240.0	3172.1	3094.2	2980.3
29°	3141.6	3192.6	3160.3	3093.3	3007.1	2885.0
29.5°	3055.5	3107.0	3081.4	3010.8	2921.0	2789.3
30°	2964.8	3018.5	2998.5	2926.9	2832.1	2698.1
30.5°	2872.2	2928.3	2911.9	2840.8	2739.2	2608.8
31°	2786.6	2835.3	2826.7	2754.7	2649.8	2521.3
31.5°	2691.3	2741.4	2739.6	2669.0	2557.8	2436.5
32°	2592.4	2651.2	2653.9	2586.0	2470.3	2351.8
32.5°	2505.8	2562.3	2566.0	2502.2	2383.7	2272.9
33°	2416.0	2476.6	2483.5	2421.9	2298.0	2196.3
33.5°	2326.2	2389.1	2394.1	2341.3	2217.3	2118.4
34°	2241.5	2310.7	2312.1	2259.7	2139.4	2039.6
34.5°	2160.8	2231.9	2233.3	2179.9	2063.3	1960.3
35°	2082.9	2154.0	2151.2	2102.0	1987.6	1884.1
35.5°	2006.3	2077.4	2072.4	2023.1	1915.1	1809.8
36°	1930.6	2002.2	1996.7	1946.1	1842.2	1733.7
36.5°	1855.0	1928.3	1920.6	1867.3	1772.0	1662.6
37°	1780.7	1854.1	1843.6	1789.8	1701.8	1595.6
37.5°	1707.3	1780.7	1772.9	1716.9	1627.1	1529.1
38°	1634.8	1706.4	1698.2	1645.8	1559.6	1462.6
38.5°	1563.3	1635.3	1619.8	1576.5	1493.1	1395.6
39°	1492.6	1569.7	1554.2	1506.8	1426.1	1329.0
39.5°	1425.2	1503.6	1488.5	1437.5	1359.1	1265.2
40°	1359.6	1437.9	1423.4	1367.8	1292.6	1203.2
40.5°	1295.3	1372.3	1357.7	1298.5	1229.7	1141.7
41°	1236.9	1306.7	1292.1	1233.3	1167.7	1080.2
41.5°	1174.1	1244.2	1226.9	1169.5	1107.1	1021.8
42°	1115.3	1183.2	1162.7	1107.5	1047.4	963.5
42.5°	1057.4	1121.2	1100.7	1048.3	989.5	907.9
43°	1004.1	1060.6	1038.7	989.5	931.6	853.7
43.5°	946.6	1000.9	978.5	930.2	874.2	801.7



TEST NUMBER: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	791.2	830.0	809.4	766.6	710.1	653.1
45.5°	738.8	776.2	755.2	715.1	659.0	606.6
46°	690.9	724.2	703.2	664.5	610.3	561.0
46.5°	642.6	673.6	654.0	616.2	562.4	515.9
47°	597.1	624.4	604.8	569.3	516.8	472.2
47.5°	551.0	576.5	557.9	523.7	472.2	430.2
48°	508.2	531.0	511.4	479.5	431.2	392.0
48.5°	466.2	486.8	468.5	438.9	392.4	353.7
49°	428.4	445.3	427.5	397.9	354.6	317.7
49.5°	391.0	405.2	388.3	359.6	319.0	284.4
50°	353.2	366.0	348.2	322.2	286.7	252.5
50.5°	315.8	329.5	313.6	287.6	254.3	223.8
51°	283.5	295.3	279.8	255.7	224.7	196.4
51.5°	253.0	263.0	249.3	225.1	197.8	170.5
52°	223.3	232.9	218.8	196.0	171.4	150.4
52.5°	196.4	205.1	191.9	170.5	151.3	130.8
53°	171.8	178.2	165.9	150.4	130.8	111.2
53.5°	148.1	155.0	146.3	129.9	110.8	91.6
54°	125.8	135.4	126.7	109.8	90.2	72.0
54.5°	106.6	115.8	107.1	89.8	70.2	57.9
55°	88.4	96.2	87.5	69.7	57.0	45.6
55.5°	72.0	76.1	67.9	56.1	44.2	33.3
56°	61.1	62.0	54.7	44.2	32.4	22.8
56.5°	50.1	49.7	43.3	31.9	21.4	15.0
57°	39.2	37.4	31.0	21.9	14.6	13.2
57.5°	28.3	26.9	21.4	15.0	13.2	11.4
58°	17.3	18.7	15.5	13.2	11.4	9.6
58.5°	13.2	16.4	14.1	11.8	9.6	8.2
59°	11.4	14.6	12.3	10.0	8.2	7.3
59.5°	10.5	12.3	10.9	8.7	7.3	6.8
60°	9.6	10.0	9.1	7.7	6.8	6.4
60.5°	8.7	9.1	8.7	7.3	6.4	5.9
61°	8.2	8.7	7.7	6.8	5.9	5.5
61.5°	7.3	7.7	7.3	6.4	5.5	5.0
62°	6.8	7.3	6.8	5.9	5.0	4.6
62.5°	6.4	6.8	6.4	5.5	4.6	4.1
63°	5.9	6.4	5.9	5.0	4.6	4.1
63.5°	5.5	5.9	5.5	4.6	4.1	3.6
64°	5.0	5.5	5.0	4.1	3.6	3.6
64.5°	5.0	5.0	4.6	4.1	3.6	3.2
65°	4.6	5.0	4.6	3.6	3.2	3.2
65.5°	4.1	4.6	4.1	3.6	3.2	2.7
66°	4.1	4.1	3.6	3.2	2.7	2.7



TEST NUMBER: P776595  
 CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.2	3.6	3.2	2.7	2.3	2.3
68°	3.2	3.2	2.7	2.3	2.3	1.8
68.5°	2.7	3.2	2.7	2.3	1.8	1.8
69°	2.7	2.7	2.7	2.3	1.8	1.8
69.5°	2.3	2.7	2.3	1.8	1.8	1.4
70°	2.3	2.3	2.3	1.8	1.4	1.4
70.5°	2.3	2.3	2.3	1.8	1.4	1.4
71°	1.8	2.3	1.8	1.8	1.4	1.4
71.5°	1.8	1.8	1.8	1.4	1.4	0.9
72°	1.8	1.8	1.8	1.4	1.4	0.9
72.5°	1.8	1.8	1.4	1.4	0.9	0.9
73°	1.4	1.4	1.4	1.4	0.9	0.9
73.5°	1.4	1.4	1.4	0.9	0.9	0.9
74°	1.4	1.4	1.4	0.9	0.9	0.9
74.5°	1.4	1.4	1.4	0.9	0.9	0.5
75°	0.9	1.4	0.9	0.9	0.9	0.5
75.5°	0.9	0.9	0.9	0.9	0.5	0.5
76°	0.9	0.9	0.9	0.9	0.5	0.5
76.5°	0.9	0.9	0.9	0.5	0.5	0.5
77°	0.9	0.9	0.9	0.5	0.5	0.5
77.5°	0.9	0.9	0.9	0.5	0.5	0.5
78°	0.9	0.9	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.0
80°	0.5	0.5	0.5	0.5	0.0	0.0
80.5°	0.5	0.5	0.5	0.5	0.0	0.0
81°	0.5	0.5	0.5	0.5	0.0	0.0
81.5°	0.5	0.5	0.5	0.0	0.0	0.0
82°	0.5	0.5	0.5	0.0	0.0	0.0
82.5°	0.5	0.5	0.5	0.0	0.0	0.0
83°	0.5	0.5	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	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: P776595

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRC-5000lm-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

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

Scaled Data Report



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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°	4065.4	3958.8	3950.6	3906.8	3863.1	3853.0	3875.8	3975.2	4092.3	4172.5	4167.5
22°	3997.1	3885.9	3875.8	3830.3	3788.3	3781.5	3806.1	3909.1	4023.5	4102.8	4096.4



44°	750.6	666.8	648.1	606.6	595.2	628.0	659.9	695.5	742.4	804.0	817.2
44.5°	700.5	620.8	603.9	562.0	550.1	586.6	618.5	650.4	692.3	752.9	766.6



66.5°	2.3	2.3	2.7	3.2	3.2	3.2	2.7	2.7	2.7	3.2	3.2
67°	2.3	2.3	2.7	2.7	3.2	2.7	2.7	2.7	2.7	2.7	3.2



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°	4224.5	4289.2	4309.7	4266.4	4167.1	4065.4
22°	4155.7	4221.3	4236.8	4191.2	4097.8	3997.1



44°	893.3	943.0	920.2	874.2	817.2	750.6
44.5°	840.9	886.0	865.0	819.9	764.3	700.5

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66.5°	3.6	4.1	3.6	3.2	2.7	2.3
67°	3.6	3.6	3.2	2.7	2.3	2.3

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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)