

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: P776614

Luminaire Tested: HCDJBS4050CSD-HCD4TRMB-5000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776614  
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-HCD4TRMB-5000lm-5000K  
Description: 4 INCH ROUND MEDIUM MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3075.3 lumens  
Efficiency: N/A  
Efficacy: 64.1 lumens/watt  
Spacing Criteria (0/90/45): 0.95 / 0.95 / 0.94  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

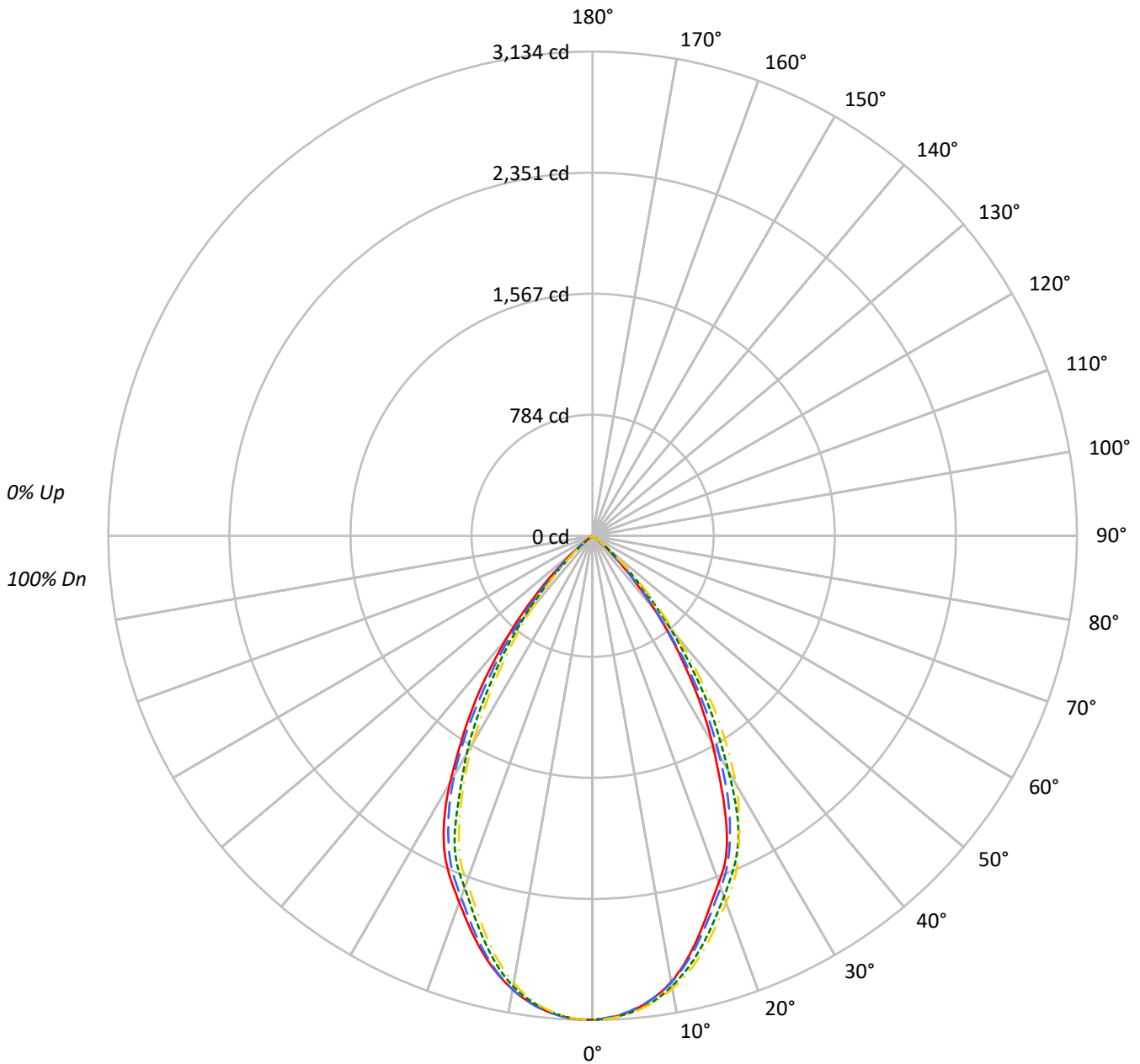
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**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	100	100	100	100		
	1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93	93	93	93	93	93		
	2	108	103	98	95	105	101	97	94	98	95	92	95	92	90	92	90	88	86	86	86	86	86	86		
	3	102	95	90	86	100	94	89	85	91	87	84	89	86	83	87	84	82	80	80	80	80	80	80		
	4	97	89	83	79	95	88	82	78	85	81	77	83	80	76	82	78	76	74	74	74	74	74	74		
	5	91	83	77	72	90	82	76	72	80	75	71	78	74	71	77	73	70	69	69	69	69	69	69		
	6	87	77	71	67	85	77	71	67	75	70	66	74	69	66	72	68	65	64	64	64	64	64	64		
	7	82	72	66	62	81	72	66	62	70	65	61	69	65	61	68	64	61	59	59	59	59	59	59		
	8	78	68	62	58	77	67	62	57	66	61	57	65	60	57	64	60	57	55	55	55	55	55	55		
	9	74	64	58	54	73	63	58	54	62	57	53	62	57	53	61	56	53	52	52	52	52	52	52		
	10	70	60	54	50	69	60	54	50	59	54	50	58	53	50	57	53	50	48	48	48	48	48	48		

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

	0°	90°	180°	270°
0°	394237	394237	394237	394237
5°	389060	390399	391574	390829
10°	374492	378224	381073	378351
15°	347781	357397	362204	353345
20°	319884	332767	338031	324571
25°	284066	308477	314545	292828
30°	224794	255064	268128	236855
35°	163405	194148	206761	174083
40°	102284	128225	142271	112420
45°	46239	68717	79183	52806
50°	13411	21008	27391	15780
55°	2128	2128	2874	2655
60°	856	856	982	856
65°	566	566	566	566
70°	368	552	552	552
75°	243	486	243	486
80°	0	362	362	362
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 180°  
 Vertical Angle: 45°  
 Luminance: 79183 cd/sqm



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	290.8	9.5
10°-20°	762.8	24.8
20°-30°	973.5	31.7
30°-40°	744.3	24.2
40°-50°	278.2	9.0
50°-60°	22.7	0.7
60°-70°	2.1	0.1
70°-80°	0.8	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°	2027.2	65.9
0°-40°	2771.5	90.1
0°-60°	3072.3	99.9
0°-90°	3075.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3075.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3133	3133	3133	3133	3133	
5°	3080	3090	3100	3094	3080	289
15°	2669	2743	2780	2712	2669	747
25°	2046	2222	2265	2109	2046	920
35°	1064	1264	1346	1133	1064	663
45°	260	386	445	297	260	218
55°	10	10	13	12	10	16
65°	2	2	2	2	2	2
75°	0	1	0	1	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6
0.5°	3131.6	3129.2	3129.2	3129.2	3131.6	3132.1	3133.6	3134.5	3133.1	3131.6	3131.6
1°	3129.7	3127.2	3126.8	3127.2	3129.7	3130.6	3132.1	3133.1	3132.6	3131.6	3131.1
1.5°	3126.8	3123.8	3123.4	3123.8	3127.2	3128.7	3130.2	3131.6	3130.6	3130.2	3130.6
2°	3122.9	3120.0	3119.0	3120.0	3124.3	3125.8	3127.2	3128.7	3128.7	3128.2	3128.7
2.5°	3118.0	3114.6	3114.1	3115.6	3120.4	3121.9	3123.4	3125.3	3125.8	3125.3	3125.8
3°	3112.2	3108.8	3108.3	3110.2	3115.6	3117.5	3119.0	3120.9	3121.9	3121.9	3122.4
3.5°	3105.4	3101.5	3102.0	3104.4	3110.2	3112.2	3114.1	3116.1	3117.5	3118.0	3118.0
4°	3097.6	3094.2	3094.2	3097.1	3104.4	3106.4	3107.8	3110.2	3112.2	3113.2	3113.2
4.5°	3088.9	3085.5	3086.0	3089.8	3098.1	3100.0	3101.5	3103.9	3106.4	3107.3	3107.3
5°	3079.7	3075.8	3076.3	3081.1	3090.3	3092.3	3093.7	3096.6	3099.6	3101.0	3100.5
5.5°	3069.0	3064.6	3066.5	3071.4	3081.6	3083.5	3085.5	3088.4	3091.8	3093.2	3092.3
6°	3057.8	3053.4	3055.4	3061.2	3072.4	3074.3	3076.3	3079.7	3083.5	3085.0	3083.5
6.5°	3045.7	3041.8	3044.2	3050.0	3061.7	3064.6	3066.5	3069.9	3074.3	3075.8	3074.3
7°	3032.5	3028.7	3031.6	3037.4	3050.0	3053.4	3055.9	3059.7	3063.6	3065.6	3064.1
7.5°	3018.5	3015.1	3017.5	3023.8	3037.4	3041.3	3044.7	3048.1	3052.0	3054.4	3052.9
8°	3003.4	3000.5	3002.9	3009.7	3023.8	3028.2	3032.5	3036.4	3040.3	3041.8	3040.3
8.5°	2986.9	2984.9	2987.9	2994.2	3009.2	3014.1	3019.9	3023.3	3026.7	3029.1	3027.2
9°	2969.4	2967.9	2971.3	2977.7	2993.7	3000.0	3006.3	3009.7	3013.1	3014.6	3013.1
9.5°	2950.0	2950.0	2953.9	2960.7	2977.2	2984.5	2991.7	2996.1	2998.1	2999.5	2998.1
10°	2930.5	2930.5	2934.9	2942.2	2959.7	2968.4	2976.2	2980.6	2982.0	2983.0	2981.5
10.5°	2910.2	2910.2	2915.0	2923.3	2942.7	2950.9	2959.7	2964.5	2965.5	2966.0	2964.1
11°	2886.8	2887.8	2894.1	2902.4	2923.3	2933.0	2942.7	2947.5	2948.5	2948.0	2945.6
11.5°	2863.0	2865.0	2872.3	2881.0	2903.4	2914.5	2925.2	2929.6	2929.6	2929.1	2925.7
12°	2837.8	2840.7	2849.0	2858.7	2883.4	2895.1	2906.3	2911.1	2911.1	2909.2	2905.8
12.5°	2811.6	2815.0	2824.2	2835.8	2861.6	2874.2	2886.4	2891.7	2891.2	2888.3	2884.4
13°	2784.4	2788.7	2799.4	2812.0	2839.2	2852.8	2866.4	2871.8	2870.3	2866.4	2860.6
13.5°	2756.2	2762.0	2773.2	2786.8	2816.9	2831.0	2844.6	2849.9	2849.0	2844.6	2837.8
14°	2727.5	2734.3	2747.5	2762.0	2792.1	2808.6	2822.2	2828.6	2826.6	2820.8	2813.0
14.5°	2698.4	2706.2	2720.3	2736.3	2767.8	2785.3	2798.9	2805.2	2803.3	2797.0	2787.3
15°	2669.3	2677.5	2692.6	2709.6	2743.1	2761.0	2775.6	2781.9	2780.0	2772.2	2761.5
15.5°	2639.1	2648.9	2664.4	2683.3	2718.3	2736.3	2751.8	2757.6	2755.7	2747.5	2734.8
16°	2609.0	2619.7	2637.2	2656.1	2692.1	2712.0	2727.5	2733.4	2730.9	2721.7	2708.1
16.5°	2579.9	2591.5	2609.5	2629.4	2666.3	2686.7	2701.8	2709.6	2706.2	2696.0	2680.9
17°	2550.8	2562.4	2581.4	2602.7	2640.1	2661.0	2677.0	2683.8	2680.4	2669.3	2653.7
17.5°	2521.6	2533.8	2553.7	2576.0	2613.4	2634.8	2650.8	2657.1	2654.2	2642.5	2625.5
18°	2492.5	2505.6	2526.0	2548.8	2587.2	2609.0	2625.1	2632.3	2628.0	2615.8	2598.3
18.5°	2464.3	2478.9	2498.8	2522.1	2560.5	2583.3	2599.8	2606.1	2601.3	2588.6	2570.2
19°	2438.1	2453.1	2474.0	2496.4	2534.7	2558.0	2574.1	2580.4	2575.0	2561.9	2542.5
19.5°	2413.3	2428.8	2448.8	2471.6	2510.0	2532.8	2549.8	2555.6	2550.3	2535.2	2515.3
20°	2388.5	2404.6	2424.5	2447.3	2484.7	2508.0	2526.5	2531.3	2524.0	2510.0	2489.6
20.5°	2364.3	2379.8	2400.2	2422.5	2460.4	2484.2	2502.2	2507.5	2500.2	2484.7	2464.3
21°	2339.5	2355.5	2374.9	2397.8	2436.1	2460.4	2477.4	2483.7	2476.0	2460.4	2439.5



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2252.5	2267.6	2286.5	2316.7	2362.3	2386.1	2401.7	2408.9	2403.1	2387.1	2363.8
23°	2217.6	2233.1	2253.0	2288.5	2336.6	2359.4	2373.0	2381.7	2378.3	2361.3	2336.1
23.5°	2179.7	2196.2	2218.1	2256.4	2309.9	2330.7	2341.4	2351.1	2351.6	2335.1	2306.5
24°	2137.4	2154.9	2181.2	2222.9	2282.7	2300.1	2307.9	2320.1	2323.9	2307.9	2275.4
24.5°	2092.8	2110.2	2141.8	2187.5	2253.0	2269.1	2274.4	2286.5	2295.3	2278.8	2241.4
25°	2045.7	2062.7	2103.4	2151.5	2221.5	2235.6	2239.0	2252.1	2265.2	2249.2	2206.4
25.5°	1996.1	2014.1	2063.1	2112.2	2188.4	2200.1	2201.1	2215.6	2233.1	2217.1	2170.0
26°	1944.6	1964.5	2022.8	2074.3	2152.5	2162.7	2164.2	2178.7	2198.6	2183.6	2133.1
26.5°	1892.2	1915.0	1979.1	2034.5	2113.2	2123.8	2127.7	2141.3	2161.7	2147.2	2093.7
27°	1839.2	1866.4	1934.9	1993.2	2070.9	2084.5	2091.3	2103.9	2122.4	2107.3	2054.4
27.5°	1788.7	1818.4	1888.8	1950.9	2024.3	2044.2	2054.4	2066.1	2082.1	2066.1	2015.5
28°	1737.7	1772.7	1840.2	1905.8	1975.2	2002.9	2016.5	2028.2	2037.4	2021.9	1973.8
28.5°	1688.2	1728.5	1790.7	1858.2	1921.8	1959.2	1978.6	1989.3	1992.2	1976.7	1931.5
29°	1640.6	1684.8	1740.7	1809.6	1867.4	1915.0	1939.8	1950.0	1946.1	1927.1	1887.3
29.5°	1593.5	1640.6	1689.2	1758.1	1811.6	1868.9	1897.5	1907.7	1895.6	1876.6	1840.7
30°	1546.9	1595.4	1638.2	1704.2	1755.2	1820.3	1853.8	1865.5	1845.1	1824.2	1791.2
30.5°	1500.7	1548.8	1589.1	1647.9	1701.8	1770.3	1807.7	1819.8	1791.2	1769.3	1741.6
31°	1453.6	1500.7	1539.1	1593.0	1649.8	1718.8	1762.5	1775.1	1738.7	1714.4	1690.1
31.5°	1406.5	1451.2	1491.0	1535.2	1599.8	1666.8	1715.4	1726.6	1686.3	1659.1	1638.7
32°	1358.9	1401.2	1441.5	1478.9	1552.7	1613.9	1669.3	1678.0	1636.2	1605.6	1584.3
32.5°	1311.3	1348.2	1392.4	1424.0	1504.6	1561.9	1622.6	1627.0	1585.7	1553.7	1532.3
33°	1261.8	1296.3	1342.4	1367.7	1459.0	1510.4	1575.0	1577.0	1537.6	1502.2	1476.9
33.5°	1211.3	1244.3	1291.9	1312.3	1410.4	1459.4	1525.5	1526.5	1488.1	1451.7	1421.1
34°	1161.2	1194.8	1239.9	1258.4	1361.8	1410.9	1476.4	1476.0	1442.0	1401.7	1364.3
34.5°	1112.7	1143.3	1188.4	1205.9	1311.8	1363.3	1425.4	1423.5	1393.4	1353.1	1310.3
35°	1063.6	1095.2	1137.0	1154.0	1263.7	1317.6	1374.5	1373.0	1345.8	1305.0	1254.5
35.5°	1017.5	1049.1	1084.0	1103.4	1210.3	1270.0	1320.5	1322.0	1297.2	1256.4	1202.0
36°	971.8	1002.4	1031.1	1054.4	1158.8	1222.0	1267.6	1271.0	1250.6	1207.4	1151.0
36.5°	927.1	956.8	979.6	1006.3	1108.3	1174.8	1213.7	1219.5	1200.6	1157.4	1101.5
37°	883.0	910.2	925.7	958.7	1058.8	1127.7	1160.8	1167.1	1151.0	1106.4	1051.5
37.5°	839.2	865.0	873.7	912.1	1009.2	1078.7	1107.3	1117.5	1101.0	1055.9	1004.9
38°	795.5	818.4	822.7	865.0	962.6	1029.1	1057.8	1068.5	1052.0	1005.3	957.3
38.5°	751.8	772.2	775.1	819.3	916.0	979.1	1006.8	1020.4	1004.4	955.8	910.2
39°	709.1	727.1	729.5	774.6	871.8	930.5	956.8	972.3	957.7	910.6	863.5
39.5°	664.9	679.9	683.8	732.9	825.2	882.0	907.2	924.7	911.1	861.6	817.9
40°	622.6	634.8	639.1	689.2	780.5	835.4	857.7	876.2	866.0	816.4	772.2
40.5°	580.4	590.6	598.3	648.4	736.8	789.2	808.6	829.0	820.3	773.2	727.1
41°	539.1	547.8	557.6	608.1	694.0	745.0	761.5	781.4	778.0	732.4	681.4
41.5°	498.3	506.6	518.2	568.2	649.8	700.3	715.9	733.4	734.3	689.2	638.2
42°	460.9	465.8	479.8	527.9	606.6	657.6	670.7	687.2	689.2	649.3	594.9
42.5°	423.5	427.9	443.9	491.5	565.8	614.9	626.5	643.0	645.9	609.0	554.2
43°	388.5	391.0	408.0	455.1	526.5	572.1	583.3	599.8	604.2	571.6	514.8
43.5°	353.6	355.5	374.9	419.1	488.6	528.9	543.0	557.6	561.9	530.8	476.9



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	259.8	257.4	282.2	319.6	386.1	410.4	429.8	442.0	444.9	425.4	374.9
45.5°	231.7	228.8	255.5	289.5	352.1	371.5	393.4	405.5	408.5	391.0	340.9
46°	205.4	202.5	229.7	260.8	318.1	332.7	357.0	369.1	372.0	356.5	310.3
46.5°	180.2	177.8	205.9	234.6	286.5	298.7	321.0	333.2	335.6	322.5	281.7
47°	162.2	160.3	182.6	209.3	255.9	266.6	288.5	299.2	301.6	290.9	254.0
47.5°	144.7	142.3	164.6	185.0	226.8	236.5	257.4	267.6	271.0	261.8	228.3
48°	127.2	124.3	146.7	162.2	199.1	208.8	229.2	237.5	241.4	234.1	204.5
48.5°	109.8	106.8	128.7	142.3	173.4	182.6	202.0	209.8	213.7	205.9	182.1
49°	92.3	88.9	110.7	125.3	149.1	159.3	176.3	183.1	187.0	180.7	160.8
49.5°	80.1	77.2	92.8	109.8	126.8	137.4	152.5	158.8	162.7	157.4	141.3
50°	68.5	66.1	78.7	94.2	107.3	117.5	130.2	137.0	139.9	135.5	123.4
50.5°	58.3	56.3	66.1	78.7	89.8	99.6	110.2	117.0	119.5	116.1	106.4
51°	49.1	47.1	54.4	63.1	74.3	83.1	91.8	98.6	100.5	97.6	91.3
51.5°	40.3	38.9	44.2	51.5	64.6	68.5	75.8	81.6	83.5	82.1	77.2
52°	33.0	31.6	35.0	40.8	54.9	58.3	64.6	67.0	68.5	68.0	64.6
52.5°	26.2	24.8	27.2	31.1	45.2	48.6	53.4	57.3	58.3	58.3	55.4
53°	19.9	18.9	20.4	23.3	35.5	38.4	42.7	47.1	48.6	48.1	46.1
53.5°	17.5	16.5	18.0	17.0	25.7	28.2	31.6	37.4	38.4	38.4	36.9
54°	15.1	13.6	15.1	14.1	16.0	18.5	20.9	27.2	28.2	28.7	27.2
54.5°	12.6	10.7	12.6	12.1	11.7	13.1	14.6	17.5	18.5	18.5	18.5
55°	9.7	8.3	9.7	9.7	9.7	10.2	11.2	12.6	13.1	13.6	13.6
55.5°	7.3	7.3	7.3	7.8	8.3	8.7	9.2	9.7	10.2	10.7	10.2
56°	6.8	6.3	6.3	6.8	7.3	7.8	7.8	8.3	8.7	8.7	8.7
56.5°	5.8	5.8	5.8	5.8	6.3	6.8	7.3	7.3	7.8	7.8	7.8
57°	5.3	5.3	5.3	5.3	5.8	5.8	6.3	6.8	6.8	6.8	6.8
57.5°	4.9	4.9	4.9	4.9	5.3	5.3	5.8	5.8	6.3	6.3	6.3
58°	4.4	4.4	4.4	4.4	4.9	4.9	4.9	5.3	5.3	5.3	5.3
58.5°	3.9	3.9	3.9	3.9	4.4	4.4	4.4	4.9	4.9	4.9	4.9
59°	3.9	3.9	3.9	3.9	3.9	3.9	4.4	4.4	4.4	4.4	4.4
59.5°	3.4	3.4	3.4	3.4	3.4	3.9	3.9	3.9	3.9	3.9	3.9
60°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.9	3.9	3.9	3.9
60.5°	2.9	2.9	2.9	2.9	3.4	3.4	3.4	3.4	3.4	3.4	3.4
61°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.4	3.4	3.4	3.4
61.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
62°	2.4	2.4	2.4	2.4	2.4	2.9	2.9	2.9	2.9	2.9	2.9
62.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.9	2.9
63°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
63.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
64°	1.9	1.9	1.9	1.9	1.9	2.4	2.4	2.4	2.4	2.4	2.4
64.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4
65°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
65.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
66°	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9





TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
68°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
68.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
69°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
69.5°	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
70°	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
70.5°	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.0	1.0	1.0	1.5
71°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.5
71.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
72°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
73°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
73.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74°	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.5	0.5	0.5	1.0	1.0	1.0	1.0	0.5	0.5	0.5	1.0
75.5°	0.5	0.5	0.5	0.5	1.0	1.0	1.0	0.5	0.5	0.5	1.0
76°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
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	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	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	0.5	0.5	0.5	0.5
81°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
81.5°	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
82°	0.0	0.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.5
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: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3132.6	3132.6	3132.6	3132.6	3132.6	3132.6
0.5°	3131.6	3132.6	3133.1	3133.6	3133.6	3131.6
1°	3131.6	3132.1	3132.1	3132.6	3132.1	3129.7
1.5°	3130.6	3130.6	3130.6	3130.6	3129.7	3126.8
2°	3128.7	3128.2	3128.2	3127.7	3125.8	3122.9
2.5°	3125.8	3124.8	3124.3	3123.8	3121.4	3118.0
3°	3122.4	3120.4	3120.0	3119.0	3116.6	3112.2
3.5°	3117.5	3115.1	3114.6	3113.2	3109.8	3105.4
4°	3111.7	3108.8	3108.3	3106.4	3102.5	3097.6
4.5°	3105.4	3101.5	3100.5	3098.6	3094.7	3088.9
5°	3098.6	3093.7	3091.8	3089.4	3085.5	3079.7
5.5°	3090.3	3084.5	3082.1	3079.7	3074.3	3069.0
6°	3081.1	3074.3	3071.9	3068.5	3063.6	3057.8
6.5°	3071.4	3063.6	3060.7	3056.8	3051.5	3045.7
7°	3060.7	3052.0	3048.1	3043.7	3037.4	3032.5
7.5°	3049.1	3039.3	3034.5	3029.1	3022.8	3018.5
8°	3036.9	3025.7	3019.9	3013.6	3008.3	3003.4
8.5°	3023.3	3011.2	3004.4	2997.1	2991.3	2986.9
9°	3008.7	2995.6	2987.4	2979.1	2973.3	2969.4
9.5°	2993.2	2978.6	2969.4	2959.7	2952.9	2950.0
10°	2976.7	2960.7	2950.0	2939.8	2933.5	2930.5
10.5°	2958.7	2941.7	2929.1	2917.9	2912.1	2910.2
11°	2940.3	2921.3	2907.2	2895.1	2888.8	2886.8
11.5°	2920.3	2899.0	2883.9	2870.8	2864.0	2863.0
12°	2898.5	2876.2	2859.2	2845.1	2838.3	2837.8
12.5°	2876.2	2850.9	2832.9	2818.4	2811.6	2811.6
13°	2852.8	2824.7	2806.2	2791.2	2783.9	2784.4
13.5°	2827.6	2798.0	2778.0	2762.0	2756.2	2756.2
14°	2801.4	2770.3	2749.4	2732.9	2725.6	2727.5
14.5°	2774.6	2741.1	2719.8	2703.7	2696.0	2698.4
15°	2747.5	2712.0	2689.7	2673.6	2666.3	2669.3
15.5°	2719.3	2682.9	2659.5	2643.5	2636.2	2639.1
16°	2691.1	2652.7	2629.4	2611.9	2606.1	2609.0
16.5°	2662.5	2623.6	2599.3	2581.8	2576.0	2579.9
17°	2633.3	2594.0	2568.2	2551.2	2545.4	2550.8
17.5°	2604.2	2563.9	2538.1	2521.6	2515.8	2521.6
18°	2575.5	2533.8	2508.5	2491.0	2486.6	2492.5
18.5°	2546.9	2505.1	2478.4	2461.4	2457.5	2464.3
19°	2518.2	2476.0	2449.7	2433.2	2430.3	2438.1
19.5°	2491.0	2449.2	2424.0	2407.5	2404.1	2413.3
20°	2464.8	2423.5	2397.3	2382.2	2378.8	2388.5
20.5°	2439.5	2398.7	2372.5	2357.0	2354.5	2364.3
21°	2414.3	2374.0	2346.8	2331.2	2330.3	2339.5



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2338.0	2296.7	2266.1	2246.7	2241.9	2252.5
23°	2307.9	2266.1	2233.1	2210.3	2205.4	2217.6
23.5°	2276.8	2232.6	2197.7	2171.0	2168.0	2179.7
24°	2242.8	2194.8	2156.9	2127.7	2125.8	2137.4
24.5°	2206.9	2153.5	2116.6	2083.1	2081.1	2092.8
25°	2168.5	2108.8	2071.9	2035.9	2035.0	2045.7
25.5°	2129.2	2060.7	2025.7	1989.8	1988.3	1996.1
26°	2087.4	2010.2	1976.2	1944.6	1938.8	1944.6
26.5°	2044.2	1957.3	1926.7	1899.0	1890.7	1892.2
27°	2000.0	1906.3	1873.7	1854.3	1841.7	1839.2
27.5°	1953.4	1855.8	1817.9	1806.7	1791.6	1788.7
28°	1905.8	1808.6	1764.0	1759.1	1742.1	1737.7
28.5°	1858.2	1762.5	1711.5	1709.6	1692.6	1688.2
29°	1809.1	1717.8	1661.0	1658.1	1641.1	1640.6
29.5°	1760.1	1674.6	1611.9	1604.7	1590.1	1593.5
30°	1712.5	1629.9	1563.4	1551.2	1537.6	1546.9
30.5°	1663.9	1583.8	1516.3	1495.9	1484.2	1500.7
31°	1616.8	1536.7	1469.2	1440.0	1431.8	1453.6
31.5°	1571.2	1486.6	1422.0	1387.1	1378.3	1406.5
32°	1524.5	1435.6	1374.0	1334.1	1327.8	1358.9
32.5°	1478.4	1384.2	1326.9	1282.2	1279.3	1311.3
33°	1432.2	1331.7	1278.3	1232.2	1231.2	1261.8
33.5°	1386.1	1279.3	1229.2	1181.2	1183.6	1211.3
34°	1337.1	1228.8	1180.2	1131.6	1136.0	1161.2
34.5°	1287.5	1180.7	1129.7	1082.1	1087.9	1112.7
35°	1235.6	1133.1	1080.6	1032.5	1039.8	1063.6
35.5°	1185.5	1088.4	1033.5	983.5	991.7	1017.5
36°	1130.2	1045.2	986.4	936.9	943.2	971.8
36.5°	1078.2	1000.5	942.2	892.2	894.1	927.1
37°	1024.8	956.8	897.0	848.0	847.0	883.0
37.5°	974.3	912.6	852.8	804.8	801.4	839.2
38°	923.3	866.4	809.1	762.0	757.2	795.5
38.5°	875.7	820.3	765.9	720.3	714.9	751.8
39°	827.1	775.1	724.6	680.4	675.1	709.1
39.5°	780.0	729.5	681.4	639.6	635.7	664.9
40°	732.9	684.3	640.1	601.7	597.4	622.6
40.5°	688.7	640.6	599.8	563.4	559.5	580.4
41°	643.5	599.3	560.0	527.4	524.0	539.1
41.5°	600.3	558.0	521.6	493.0	488.1	498.3
42°	558.0	519.2	484.2	460.9	454.1	460.9
42.5°	516.8	480.3	448.3	428.4	421.1	423.5
43°	476.9	442.9	413.8	398.3	390.0	388.5
43.5°	441.5	404.1	381.3	368.1	358.9	353.6



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	336.1	296.7	290.4	286.1	276.3	259.8
45.5°	305.0	264.2	262.7	260.8	251.1	231.7
46°	275.9	234.1	237.0	237.5	228.3	205.4
46.5°	248.2	205.9	212.2	215.2	205.4	180.2
47°	222.4	181.2	188.4	193.3	184.1	162.2
47.5°	198.6	163.2	166.6	173.4	166.6	144.7
48°	175.8	145.2	149.6	156.9	149.6	127.2
48.5°	155.4	127.7	132.1	140.4	132.1	109.8
49°	136.5	110.2	115.1	123.8	114.6	92.3
49.5°	119.0	92.8	98.1	107.3	97.1	80.1
50°	103.0	80.6	84.0	90.8	83.5	68.5
50.5°	88.9	69.9	71.9	77.2	69.9	58.3
51°	75.8	59.7	61.2	65.1	58.8	49.1
51.5°	64.6	51.0	51.0	53.9	48.6	40.3
52°	55.9	42.7	41.8	43.7	38.9	33.0
52.5°	47.6	35.0	34.0	34.5	30.6	26.2
53°	38.9	28.2	26.7	26.2	23.3	19.9
53.5°	30.6	21.9	20.4	19.4	17.0	17.5
54°	21.9	16.5	17.5	16.5	14.6	15.1
54.5°	16.5	14.1	15.1	13.6	12.1	12.6
55°	12.6	12.1	12.6	10.7	9.7	9.7
55.5°	9.7	9.7	9.7	7.8	7.8	7.3
56°	8.7	7.8	7.3	7.3	6.8	6.8
56.5°	7.3	6.8	6.3	6.3	6.3	5.8
57°	6.8	5.8	5.8	5.8	5.3	5.3
57.5°	5.8	5.3	5.3	5.3	4.9	4.9
58°	5.3	4.9	4.9	4.9	4.4	4.4
58.5°	4.9	4.4	4.4	4.4	4.4	3.9
59°	4.4	3.9	3.9	3.9	3.9	3.9
59.5°	3.9	3.9	3.9	3.9	3.4	3.4
60°	3.9	3.4	3.4	3.4	3.4	3.4
60.5°	3.4	3.4	3.4	3.4	3.4	2.9
61°	3.4	2.9	2.9	2.9	2.9	2.9
61.5°	2.9	2.9	2.9	2.9	2.9	2.9
62°	2.9	2.9	2.9	2.9	2.4	2.4
62.5°	2.9	2.4	2.4	2.4	2.4	2.4
63°	2.4	2.4	2.4	2.4	2.4	2.4
63.5°	2.4	2.4	2.4	2.4	2.4	2.4
64°	2.4	2.4	2.4	2.4	1.9	1.9
64.5°	2.4	1.9	1.9	1.9	1.9	1.9
65°	1.9	1.9	1.9	1.9	1.9	1.9
65.5°	1.9	1.9	1.9	1.9	1.9	1.9
66°	1.9	1.9	1.9	1.9	1.9	1.5



TEST NUMBER: P776614

CATALOG NUMBER: HCDJBL54050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.5	1.5	1.5	1.5	1.5	1.5
68°	1.5	1.5	1.5	1.5	1.5	1.5
68.5°	1.5	1.5	1.5	1.5	1.5	1.5
69°	1.5	1.5	1.5	1.5	1.5	1.5
69.5°	1.5	1.5	1.5	1.5	1.5	1.0
70°	1.5	1.5	1.5	1.5	1.0	1.0
70.5°	1.5	1.5	1.5	1.0	1.0	1.0
71°	1.5	1.0	1.0	1.0	1.0	1.0
71.5°	1.0	1.0	1.0	1.0	1.0	1.0
72°	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0
73°	1.0	1.0	1.0	1.0	1.0	1.0
73.5°	1.0	1.0	1.0	1.0	1.0	1.0
74°	1.0	1.0	1.0	1.0	1.0	0.5
74.5°	1.0	1.0	1.0	1.0	0.5	0.5
75°	1.0	1.0	1.0	1.0	0.5	0.5
75.5°	1.0	1.0	1.0	0.5	0.5	0.5
76°	1.0	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5
77°	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
78°	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
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	0.5
80°	0.5	0.5	0.5	0.5	0.5	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	0.5	0.0	0.0
82°	0.5	0.5	0.5	0.0	0.0	0.0
82.5°	0.5	0.0	0.0	0.0	0.0	0.0
83°	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
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: P776614

CATALOG NUMBER: HCDJBS4050CSD-HCD4TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

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



Report Generated By 670245859 / DESKTOP-T8S5UU9



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

Scaled Data Report





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

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

Scaled Data Report



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

Scaled Data Report





21.5°	2313.7	2329.3	2347.7	2372.5	2411.9	2437.1	2455.1	2459.9	2451.7	2435.2	2414.8
22°	2284.6	2299.7	2318.1	2346.3	2387.6	2411.9	2429.3	2435.6	2427.9	2410.9	2390.5



44°	321.5	321.0	341.9	383.7	454.6	487.6	502.7	516.3	520.6	494.4	442.9
44.5°	288.5	288.5	311.3	351.6	420.6	448.8	466.2	478.4	481.3	459.9	408.9



66.5°	1.5	1.5	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9
67°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.9



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



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

Scaled Data Report





21.5°	2389.5	2349.7	2323.0	2307.4	2303.5	2313.7
22°	2365.2	2323.9	2295.3	2278.8	2274.4	2284.6



44°	406.5	367.2	349.7	339.5	329.8	321.5
44.5°	371.1	331.2	319.6	311.8	302.6	288.5



66.5°	1.9	1.9	1.9	1.9	1.5	1.5
67°	1.9	1.9	1.5	1.5	1.5	1.5

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
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

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

Scaled Data Report



(END OF REPORT)