

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: P776309

Luminaire Tested: HCDJBS3040CSD-HCD4TRMW-4000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776309
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-HCD4TRMW-4000lm-5000K
Description: 4 INCH ROUND MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

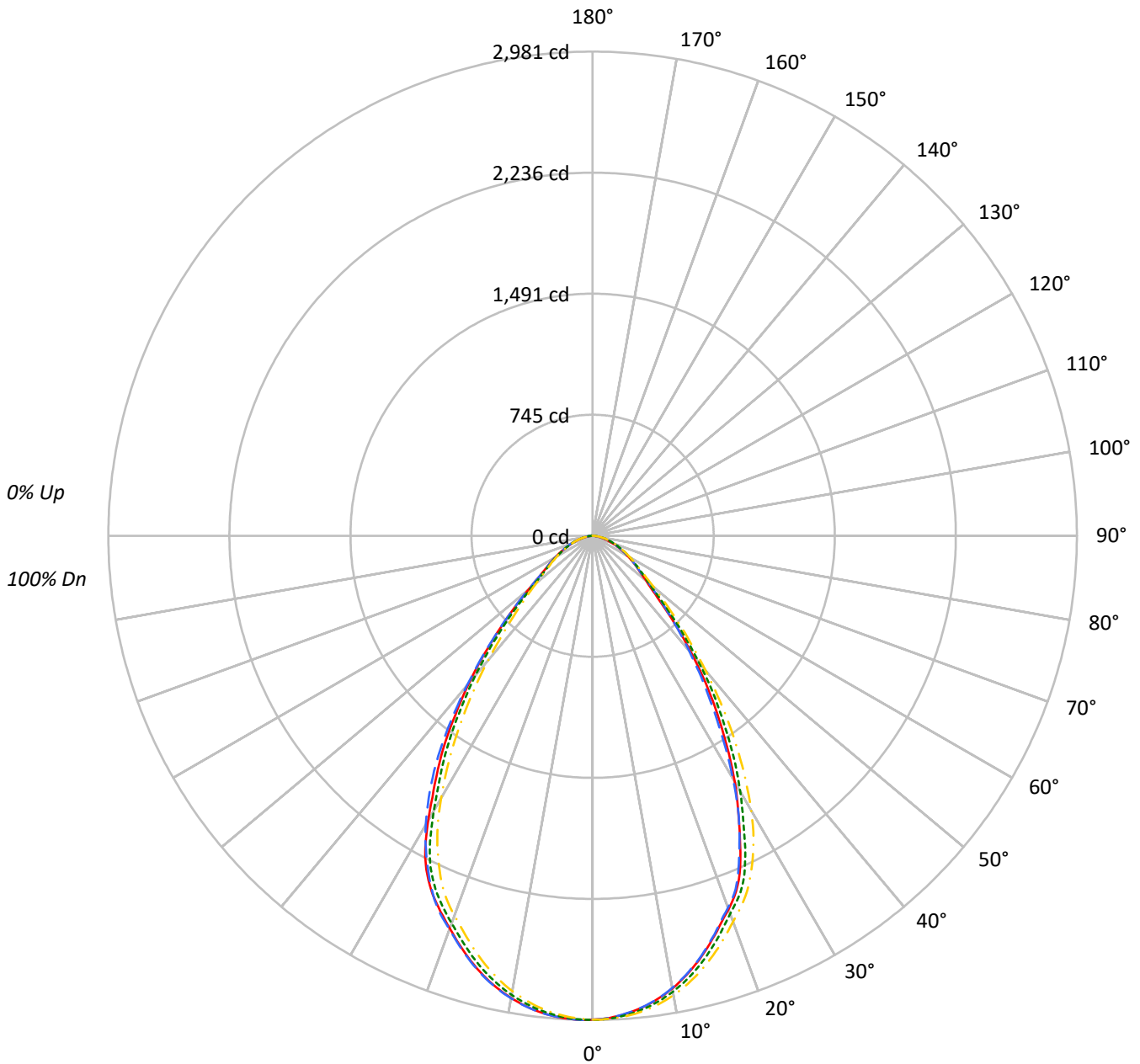
Lumens per Lamp: N/A
Luminaire Lumens: 4156.2 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.02
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



TEST NUMBER: P776309
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-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								
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90								
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72								
4	91	82	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	65								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	56	78	68	61	56	66	60	56	65	60	55	64	59	55	53								
7	75	64	57	51	74	63	56	51	62	56	51	60	55	51	59	54	50	49								
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45								
9	67	55	48	44	65	55	48	43	54	48	43	53	47	43	52	47	43	41								
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	374982	374982	374982	374982
5°	370944	372334	374406	373269
10°	361534	364154	369278	366812
15°	346022	350113	359064	355286
20°	327584	331803	344499	339959
25°	298715	308477	329542	323585
30°	254264	264001	294183	283909
35°	205301	216286	246629	236259
40°	156186	167472	194202	184459
45°	110329	119940	143006	133982
50°	84130	89103	100556	93665
55°	71682	74732	77255	73657
60°	62673	66071	67103	64209
65°	53572	58336	57354	56014
70°	45443	51919	48902	49638
75°	36566	46339	40942	43762
80°	25511	40296	31381	37324
85°	8808	31912	14151	27147

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 202.5°

Vertical Angle: 45°

Luminance: 144963 cd/sqm



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	278.7	6.7
10°-20°	759.2	18.3
20°-30°	1029.2	24.8
30°-40°	914.1	22.0
40°-50°	559.7	13.5
50°-60°	310.4	7.5
60°-70°	190.5	4.6
70°-80°	94.2	2.3
80°-90°	20.4	0.5
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°	2067.1	49.7
0°-40°	2981.1	71.7
0°-60°	3851.1	92.7
0°-90°	4156.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4156.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2980	2980	2980	2980	2980	
5°	2936	2947	2964	2955	2936	277
15°	2656	2687	2756	2727	2656	745
25°	2151	2222	2373	2330	2151	977
35°	1336	1408	1605	1538	1336	833
45°	620	674	804	753	620	494
55°	327	341	352	336	327	295
65°	180	196	193	188	180	180
75°	75	95	84	90	75	81
85°	6	22	10	19	6	11
90°	0	0	0	0	0	



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6
0.5°	2978.4	2978.8	2978.0	2976.3	2980.4	2979.2	2979.2	2980.0	2980.8	2981.7	2980.8
1°	2976.3	2976.7	2975.9	2974.3	2979.2	2978.8	2978.8	2980.4	2981.2	2982.1	2981.2
1.5°	2973.5	2973.5	2972.7	2971.4	2977.2	2977.6	2977.6	2980.0	2981.2	2982.1	2981.2
2°	2970.2	2969.8	2969.0	2968.2	2974.7	2975.5	2976.3	2978.4	2980.4	2981.7	2980.4
2.5°	2966.1	2965.7	2964.9	2964.1	2971.4	2973.1	2974.3	2977.2	2979.2	2980.4	2979.2
3°	2961.2	2961.2	2960.4	2959.6	2967.7	2969.8	2971.8	2975.1	2977.2	2978.4	2977.2
3.5°	2955.9	2955.9	2954.7	2954.7	2963.7	2966.1	2968.6	2972.2	2974.7	2975.9	2974.7
4°	2950.2	2949.8	2948.5	2948.9	2958.8	2962.0	2964.5	2969.0	2971.8	2973.1	2971.8
4.5°	2944.0	2943.2	2942.0	2942.8	2953.4	2956.7	2960.0	2964.9	2968.2	2969.8	2968.2
5°	2936.3	2935.9	2935.0	2935.9	2947.3	2951.4	2955.1	2960.4	2963.7	2965.7	2964.1
5.5°	2928.5	2927.7	2926.9	2928.1	2939.9	2944.9	2948.9	2955.5	2958.8	2960.8	2959.6
6°	2920.3	2919.1	2918.3	2919.5	2932.6	2938.3	2943.2	2949.8	2953.4	2955.5	2954.7
6.5°	2910.9	2909.7	2909.7	2910.9	2924.4	2930.5	2936.3	2943.2	2947.7	2949.8	2948.9
7°	2901.5	2900.3	2899.9	2901.5	2915.8	2922.4	2928.9	2936.3	2941.6	2943.6	2942.4
7.5°	2890.9	2889.2	2888.8	2891.3	2906.4	2913.8	2920.7	2928.9	2934.2	2936.7	2935.4
8°	2880.2	2878.6	2877.8	2880.2	2895.8	2904.4	2912.1	2920.7	2926.0	2928.9	2927.7
8.5°	2868.4	2866.8	2865.9	2868.4	2885.6	2894.6	2902.7	2912.1	2917.9	2920.3	2919.9
9°	2856.1	2854.1	2853.3	2856.5	2874.1	2883.9	2892.9	2902.3	2909.3	2912.1	2911.3
9.5°	2842.6	2840.2	2839.8	2843.4	2861.8	2872.9	2882.3	2892.9	2899.9	2902.7	2901.9
10°	2829.1	2826.3	2825.9	2829.5	2849.6	2861.0	2871.2	2882.3	2889.7	2893.3	2892.1
10.5°	2814.8	2812.0	2811.6	2815.2	2836.5	2848.8	2859.4	2871.2	2878.6	2882.7	2881.9
11°	2799.7	2796.8	2796.0	2800.5	2821.8	2835.3	2846.7	2859.8	2867.6	2871.7	2870.8
11.5°	2783.7	2780.1	2780.1	2785.0	2807.9	2821.4	2834.0	2846.7	2856.1	2859.8	2859.4
12°	2767.4	2764.1	2763.7	2768.6	2792.7	2807.1	2820.1	2834.0	2843.9	2847.9	2846.7
12.5°	2750.2	2746.5	2746.5	2751.0	2776.0	2791.5	2805.4	2820.5	2830.4	2834.9	2833.6
13°	2732.6	2729.0	2728.1	2733.9	2759.6	2776.0	2790.7	2806.6	2816.9	2821.8	2820.5
13.5°	2713.4	2709.3	2710.1	2715.5	2742.9	2759.2	2775.2	2791.9	2802.6	2807.5	2806.6
14°	2695.4	2690.9	2690.5	2696.2	2724.9	2742.0	2758.4	2776.0	2787.8	2792.7	2791.1
14.5°	2675.8	2671.3	2670.9	2677.4	2706.1	2724.5	2742.0	2760.0	2772.7	2777.2	2775.6
15°	2655.8	2650.4	2650.0	2657.0	2687.2	2706.1	2724.9	2743.3	2755.9	2761.3	2759.6
15.5°	2634.9	2630.0	2630.0	2636.5	2667.2	2687.2	2706.5	2726.5	2739.2	2744.9	2743.7
16°	2613.6	2608.7	2608.3	2615.3	2647.2	2668.0	2688.1	2709.3	2722.4	2728.1	2726.5
16.5°	2592.4	2586.7	2586.7	2594.4	2626.7	2648.0	2669.3	2690.9	2704.8	2710.6	2708.9
17°	2571.1	2564.6	2565.0	2572.8	2605.5	2627.5	2650.0	2672.5	2686.4	2692.6	2691.3
17.5°	2549.5	2542.5	2542.5	2550.7	2583.8	2607.1	2630.0	2653.3	2668.0	2674.6	2672.5
18°	2526.6	2520.0	2519.6	2528.2	2562.5	2585.8	2610.0	2633.7	2649.2	2655.8	2654.1
18.5°	2505.3	2497.9	2497.1	2506.1	2540.5	2564.2	2589.1	2614.1	2630.0	2636.5	2634.9
19°	2484.8	2477.1	2475.8	2484.4	2518.4	2543.3	2568.3	2594.0	2610.8	2617.7	2615.7
19.5°	2465.2	2457.0	2455.8	2464.4	2497.5	2522.5	2547.4	2574.4	2590.7	2598.5	2596.9
20°	2446.0	2437.4	2436.6	2444.8	2477.5	2502.8	2528.6	2554.8	2572.3	2579.7	2578.9
20.5°	2425.6	2417.0	2416.2	2424.7	2457.9	2483.2	2509.0	2535.5	2553.1	2561.7	2560.9
21°	2405.1	2396.5	2396.1	2405.1	2438.2	2464.8	2490.2	2516.3	2534.7	2544.1	2543.3



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2331.5	2319.2	2318.4	2332.3	2376.5	2404.3	2431.3	2459.1	2477.9	2487.7	2486.5
23°	2301.3	2288.6	2285.7	2302.5	2352.0	2380.6	2408.4	2439.0	2458.7	2467.7	2464.4
23.5°	2268.9	2255.9	2250.5	2271.0	2323.7	2354.4	2384.7	2418.2	2438.6	2445.6	2441.5
24°	2232.6	2219.9	2212.9	2236.6	2292.3	2326.6	2358.9	2395.7	2417.8	2422.7	2416.6
24.5°	2193.3	2183.1	2175.3	2200.3	2258.7	2296.8	2331.5	2372.4	2395.7	2398.2	2390.8
25°	2151.2	2144.2	2136.9	2162.2	2221.5	2264.9	2302.9	2347.0	2373.2	2372.4	2363.4
25.5°	2109.9	2103.3	2099.7	2122.6	2182.7	2229.3	2272.6	2320.9	2349.1	2345.0	2334.4
26°	2068.2	2061.6	2062.9	2081.7	2142.2	2192.5	2242.0	2292.7	2322.5	2316.8	2305.3
26.5°	2026.5	2017.5	2025.7	2040.0	2098.9	2154.1	2209.3	2262.0	2293.9	2286.1	2275.5
27°	1985.2	1974.5	1987.2	1998.3	2056.3	2114.4	2177.4	2230.5	2263.6	2255.5	2246.5
27.5°	1945.9	1931.2	1948.0	1954.9	2015.4	2074.3	2144.2	2197.8	2230.5	2223.6	2217.0
28°	1907.1	1887.0	1905.9	1912.4	1974.5	2033.0	2109.5	2163.0	2194.5	2192.5	2185.9
28.5°	1868.6	1845.3	1862.5	1870.7	1934.9	1994.2	2073.1	2127.9	2154.9	2159.4	2155.3
29°	1828.6	1803.6	1817.9	1828.6	1895.6	1956.1	2033.8	2090.3	2113.2	2125.4	2123.8
29.5°	1789.7	1762.3	1773.4	1786.5	1856.4	1918.5	1993.8	2051.0	2069.8	2090.3	2090.3
30°	1749.7	1720.6	1728.0	1744.3	1816.7	1880.9	1952.1	2010.1	2024.4	2054.3	2055.9
30.5°	1709.2	1680.1	1681.8	1701.8	1777.9	1843.7	1909.9	1965.6	1978.2	2015.0	2018.7
31°	1667.1	1638.0	1636.8	1659.3	1738.6	1805.3	1866.2	1920.2	1932.4	1976.2	1981.5
31.5°	1625.4	1596.3	1592.2	1617.6	1697.7	1766.4	1822.0	1872.7	1888.3	1935.7	1941.8
32°	1581.2	1555.4	1547.3	1575.9	1657.7	1727.2	1779.5	1824.9	1846.6	1894.0	1903.0
32.5°	1538.7	1513.3	1502.3	1533.8	1617.2	1687.1	1737.0	1777.5	1805.7	1849.8	1864.1
33°	1497.0	1471.6	1458.9	1492.9	1574.2	1645.0	1692.0	1729.6	1765.2	1804.9	1825.3
33.5°	1455.7	1431.9	1415.6	1452.4	1531.7	1602.9	1647.0	1683.8	1725.1	1760.3	1784.0
34°	1415.6	1390.2	1372.7	1411.5	1489.6	1559.5	1602.0	1641.3	1686.3	1716.5	1744.3
34.5°	1375.5	1349.3	1330.5	1370.6	1448.7	1515.0	1557.9	1596.7	1645.8	1672.4	1700.6
35°	1336.3	1307.6	1288.0	1330.1	1407.8	1470.4	1513.3	1551.8	1605.3	1630.3	1657.2
35.5°	1297.8	1268.8	1247.9	1289.6	1369.0	1427.9	1469.6	1508.8	1562.8	1589.0	1611.9
36°	1259.8	1227.5	1209.5	1248.8	1328.5	1384.1	1424.2	1465.5	1518.6	1547.7	1567.3
36.5°	1221.0	1187.4	1171.9	1207.1	1290.5	1342.0	1381.2	1422.1	1474.9	1506.0	1521.1
37°	1181.7	1149.0	1135.1	1167.0	1251.6	1299.5	1335.9	1378.0	1430.3	1463.8	1474.9
37.5°	1142.4	1110.6	1098.3	1126.9	1213.2	1258.6	1292.1	1334.2	1386.1	1423.4	1429.5
38°	1103.2	1072.9	1061.9	1087.7	1175.2	1217.7	1247.5	1291.3	1344.0	1380.4	1383.7
38.5°	1063.9	1034.9	1025.5	1051.3	1136.7	1177.6	1205.0	1249.2	1304.4	1338.3	1337.1
39°	1026.3	999.7	990.7	1015.3	1095.0	1137.5	1162.5	1207.1	1262.3	1295.4	1292.1
39.5°	987.9	964.6	956.4	980.1	1057.0	1097.5	1122.8	1167.4	1222.6	1252.8	1247.1
40°	950.7	929.8	921.6	945.0	1019.4	1057.4	1080.7	1127.7	1182.1	1209.9	1203.0
40.5°	914.7	895.9	889.3	911.4	980.1	1015.7	1040.6	1089.7	1145.7	1167.8	1158.8
41°	879.9	862.8	858.3	878.3	942.9	976.0	1001.0	1051.7	1105.6	1126.5	1117.1
41.5°	844.8	830.1	827.6	846.4	906.9	937.2	963.8	1015.3	1064.8	1085.6	1076.2
42°	810.0	799.0	799.4	814.9	872.6	899.2	926.6	980.1	1024.7	1045.1	1036.1
42.5°	776.9	769.1	771.2	784.3	837.4	861.5	891.4	945.0	987.5	1005.9	997.3
43°	743.8	740.1	743.8	754.8	803.5	826.0	857.0	909.8	947.8	965.8	958.0
43.5°	711.1	711.5	716.4	726.2	769.5	791.6	824.7	876.3	909.8	927.0	920.0



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	619.9	633.4	641.6	647.3	673.9	697.2	729.5	776.1	803.5	814.5	811.2
45.5°	593.7	609.3	618.2	623.2	644.4	668.1	701.3	744.2	770.8	778.9	776.5
46°	569.2	586.4	596.6	600.3	616.2	639.5	673.0	713.1	738.1	744.2	743.0
46.5°	545.9	564.3	574.5	577.8	589.6	613.7	645.6	683.3	707.0	710.2	710.7
47°	524.6	543.0	554.5	556.1	565.5	588.0	619.9	654.6	676.3	676.7	679.2
47.5°	505.4	522.6	534.4	535.7	543.0	563.9	595.3	626.4	646.5	646.1	649.7
48°	488.2	504.2	515.2	516.4	521.7	541.8	572.5	600.3	618.2	616.6	620.3
48.5°	471.9	486.2	496.8	498.0	502.5	520.9	550.4	575.3	590.4	588.8	592.5
49°	457.1	469.4	480.4	480.4	485.4	502.1	528.7	551.2	563.5	561.8	565.5
49.5°	442.8	453.5	463.7	463.7	469.4	483.7	509.1	528.7	538.1	536.9	540.6
50°	429.7	438.3	447.7	447.7	455.1	467.0	489.9	507.0	513.6	513.2	516.0
50.5°	417.5	424.0	431.8	433.0	440.8	451.4	471.9	486.6	491.5	491.5	493.1
51°	405.6	410.9	417.9	418.7	427.3	437.1	454.7	467.4	470.6	471.0	471.9
51.5°	393.8	397.9	404.0	405.6	415.0	423.6	438.3	449.4	451.4	452.2	451.4
52°	382.7	385.6	390.9	392.5	403.6	410.5	423.2	432.6	433.4	434.2	432.6
52.5°	371.7	373.7	378.2	380.7	391.7	398.3	408.5	416.3	417.1	417.5	415.0
53°	361.1	363.1	366.4	368.8	380.3	386.4	395.0	401.1	402.4	401.9	398.7
53.5°	351.2	352.9	355.3	357.8	369.2	375.0	381.9	387.6	388.0	387.6	384.4
54°	342.2	343.5	345.1	347.6	359.0	364.7	369.6	374.5	375.0	374.1	371.3
54.5°	334.5	335.3	336.5	339.0	348.8	353.7	358.2	362.3	363.1	361.5	359.0
55°	326.7	327.5	328.8	330.8	340.6	345.5	349.2	351.2	352.1	350.8	350.0
55.5°	318.9	319.8	321.0	323.0	332.4	336.9	340.6	342.7	343.5	342.2	341.0
56°	311.2	312.0	313.2	314.8	324.3	328.8	332.0	334.1	334.5	333.2	332.0
56.5°	303.0	304.2	305.4	307.5	316.1	320.2	323.0	325.5	325.5	324.7	323.4
57°	295.2	296.4	297.7	299.3	308.7	312.0	314.4	316.5	316.5	315.7	314.4
57.5°	287.5	288.7	289.5	291.5	300.5	303.8	306.3	308.3	309.1	307.5	305.9
58°	279.7	280.9	281.7	283.8	292.8	296.0	298.1	300.1	300.5	299.3	297.3
58.5°	271.9	273.1	274.4	276.4	285.0	287.9	289.9	292.4	291.9	291.1	289.1
59°	264.6	265.8	267.0	269.1	277.2	280.1	282.1	284.2	283.4	282.5	280.9
59.5°	256.8	258.4	259.6	261.3	269.9	272.3	274.0	276.0	275.2	274.4	272.7
60°	249.0	251.5	252.3	254.3	262.5	265.4	266.6	268.2	266.6	266.6	265.0
60.5°	241.7	244.1	245.3	247.0	255.6	257.6	259.2	260.5	258.4	258.4	257.2
61°	234.3	236.7	238.4	240.0	248.2	250.7	251.9	253.1	250.7	250.7	249.8
61.5°	227.3	229.8	231.8	233.5	241.2	243.7	244.5	245.7	242.9	242.9	242.5
62°	220.0	222.8	225.3	226.5	234.3	236.7	237.6	238.8	235.1	235.5	235.5
62.5°	213.0	216.3	218.3	220.0	227.3	229.8	231.0	231.4	227.8	228.2	228.6
63°	206.1	209.4	212.2	213.9	220.8	223.3	224.1	224.5	220.4	220.8	221.6
63.5°	199.5	202.8	205.7	207.3	214.3	216.7	217.5	217.1	213.0	213.9	215.1
64°	193.0	196.3	199.9	201.2	208.1	210.2	211.0	210.2	206.1	206.9	208.5
64.5°	186.5	190.1	193.8	195.5	202.0	204.0	204.9	203.6	199.1	200.4	202.4
65°	179.9	183.6	188.1	189.3	195.9	197.9	198.7	197.1	192.6	193.8	195.9
65.5°	173.8	177.5	182.0	183.6	190.1	191.8	193.0	190.5	185.6	187.3	189.7
66°	167.6	171.7	176.2	177.9	184.0	186.0	186.9	184.4	179.5	181.1	184.0



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	150.1	154.2	159.5	161.5	167.2	168.9	169.7	166.0	161.1	162.7	166.4
68°	144.7	148.4	154.2	156.2	161.9	163.6	164.4	160.3	155.4	157.0	160.7
68.5°	139.4	143.5	149.2	150.9	156.6	158.2	158.7	154.6	149.2	151.3	155.4
69°	134.1	138.2	143.9	146.0	151.3	152.9	153.3	148.8	143.9	146.0	150.1
69.5°	128.8	132.9	139.0	141.1	146.4	148.0	148.0	143.5	138.2	140.7	144.7
70°	123.5	127.6	134.1	136.6	141.1	142.7	143.1	138.2	132.9	135.3	139.4
70.5°	118.2	122.3	129.2	131.7	136.6	137.8	138.2	132.9	127.6	130.0	134.5
71°	113.3	117.4	124.3	126.8	131.7	132.9	132.9	127.6	122.7	124.7	129.6
71.5°	108.4	112.4	119.4	122.3	126.8	128.4	128.0	122.3	117.4	119.8	124.7
72°	103.0	107.5	114.5	117.4	121.9	123.5	123.1	117.4	112.4	114.9	119.8
72.5°	98.1	102.6	110.0	112.9	117.4	119.0	118.6	112.4	107.5	110.0	115.3
73°	93.2	97.7	105.1	108.4	112.9	114.1	113.7	107.5	102.6	105.1	110.4
73.5°	88.7	92.8	100.6	103.9	108.4	109.6	108.8	102.6	97.7	100.2	105.9
74°	84.2	88.3	96.1	99.8	103.9	105.5	104.7	98.1	93.2	95.7	101.4
74.5°	79.7	83.8	91.6	95.3	99.4	101.0	99.8	93.6	88.7	91.2	96.9
75°	75.2	79.3	87.1	91.2	95.3	96.5	95.7	88.7	84.2	86.7	92.4
75.5°	70.7	74.8	83.0	86.7	91.2	92.4	91.2	84.6	79.7	82.2	88.3
76°	66.6	70.7	78.5	83.0	86.7	88.3	86.7	79.7	75.2	77.7	84.2
76.5°	62.6	66.2	74.4	78.5	82.6	84.2	82.6	75.6	71.1	73.6	79.7
77°	58.5	62.2	70.3	74.8	78.5	80.1	78.5	71.1	66.6	69.1	75.6
77.5°	54.4	58.1	66.2	70.7	74.8	76.5	74.4	67.1	62.6	65.0	71.6
78°	50.3	54.0	62.6	67.1	70.7	72.4	70.3	63.0	58.5	61.3	67.5
78.5°	46.2	49.9	58.5	63.0	67.1	68.3	66.2	58.9	54.8	57.2	63.8
79°	42.5	45.8	54.8	59.3	63.0	64.6	62.6	54.8	50.7	53.2	60.1
79.5°	38.8	42.1	50.7	55.6	59.3	60.9	58.9	51.1	47.0	49.1	56.0
80°	35.2	38.4	47.0	51.9	55.6	57.2	54.8	47.0	43.3	45.4	52.3
80.5°	31.5	34.8	43.8	48.7	52.3	53.6	51.5	43.3	39.7	41.7	48.7
81°	27.8	31.1	40.1	45.0	48.7	49.9	47.8	39.7	36.0	38.4	45.4
81.5°	24.5	27.4	36.8	41.3	45.0	46.6	44.2	36.4	32.7	34.8	41.7
82°	20.9	24.1	33.5	38.0	41.7	42.9	40.9	33.1	29.0	31.1	38.4
82.5°	17.6	20.9	30.3	34.8	38.0	39.7	37.6	29.8	25.8	27.8	35.6
83°	14.3	18.0	27.4	31.5	35.2	36.4	34.8	26.6	22.1	24.1	32.7
83.5°	12.3	15.1	24.1	28.2	31.9	33.1	31.5	22.9	18.8	21.3	29.4
84°	10.2	13.5	21.7	25.4	28.6	29.8	28.2	20.0	15.5	18.4	26.6
84.5°	8.2	11.9	18.8	22.1	25.4	26.6	25.4	17.6	12.7	15.5	23.7
85°	6.1	9.8	15.9	18.8	22.1	23.3	22.1	15.1	9.8	13.5	20.9
85.5°	4.9	8.2	13.5	15.9	18.8	20.4	19.6	13.1	8.2	11.9	18.0
86°	3.7	6.5	11.0	13.1	15.9	17.6	16.8	11.4	7.0	10.2	15.5
86.5°	2.9	4.9	8.6	10.2	13.1	14.3	14.3	9.4	5.7	8.6	13.1
87°	1.6	3.3	5.7	7.4	10.2	11.4	11.4	7.8	4.5	7.0	10.6
87.5°	0.8	2.0	3.3	4.5	7.4	9.0	9.0	6.1	3.7	5.3	8.2
88°	0.4	0.8	1.2	2.0	4.9	6.1	6.5	4.5	2.5	4.1	5.7
88.5°	0.0	0.4	0.4	0.8	2.5	3.3	4.1	2.9	1.6	2.5	3.3



TEST NUMBER: P776309
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2979.6	2979.6	2979.6	2979.6	2979.6	2979.6
0.5°	2978.8	2980.8	2979.2	2977.6	2978.0	2978.4
1°	2979.2	2980.4	2978.0	2975.9	2975.9	2976.3
1.5°	2978.4	2979.2	2976.3	2973.9	2973.5	2973.5
2°	2977.6	2977.6	2974.3	2971.0	2970.2	2970.2
2.5°	2975.9	2975.1	2971.8	2968.2	2966.5	2966.1
3°	2973.9	2972.2	2968.2	2964.5	2962.0	2961.2
3.5°	2971.4	2969.0	2964.5	2960.0	2957.1	2955.9
4°	2968.2	2965.3	2959.6	2955.5	2951.8	2950.2
4.5°	2964.5	2960.0	2954.7	2949.3	2945.7	2944.0
5°	2960.4	2954.7	2948.5	2943.2	2938.7	2936.3
5.5°	2955.1	2948.9	2942.4	2936.3	2931.4	2928.5
6°	2949.3	2942.8	2935.0	2928.9	2923.6	2920.3
6.5°	2943.6	2936.3	2927.7	2921.1	2914.6	2910.9
7°	2937.1	2928.5	2919.5	2912.1	2905.2	2901.5
7.5°	2930.1	2919.9	2910.9	2902.7	2895.4	2890.9
8°	2922.0	2911.7	2901.5	2892.5	2884.7	2880.2
8.5°	2913.8	2902.3	2891.7	2882.3	2873.7	2868.4
9°	2904.8	2892.1	2881.1	2870.4	2861.0	2856.1
9.5°	2895.4	2881.9	2870.0	2859.0	2848.8	2842.6
10°	2885.2	2870.4	2858.2	2846.7	2835.7	2829.1
10.5°	2874.5	2859.0	2845.5	2833.6	2822.2	2814.8
11°	2862.7	2846.7	2832.4	2819.7	2807.5	2799.7
11.5°	2850.8	2834.0	2818.9	2805.4	2791.5	2783.7
12°	2838.1	2820.1	2804.6	2789.5	2776.0	2767.4
12.5°	2825.0	2805.8	2789.5	2773.5	2759.2	2750.2
13°	2811.1	2791.1	2774.3	2757.6	2742.4	2732.6
13.5°	2796.8	2776.4	2758.0	2740.8	2724.0	2713.4
14°	2781.7	2760.4	2741.6	2723.2	2705.2	2695.4
14.5°	2766.2	2744.1	2724.5	2705.2	2686.4	2675.8
15°	2749.8	2726.9	2706.5	2686.0	2666.8	2655.8
15.5°	2733.0	2708.9	2688.1	2667.2	2647.2	2634.9
16°	2715.9	2691.3	2669.3	2647.6	2627.1	2613.6
16.5°	2698.3	2672.9	2650.0	2628.0	2605.9	2592.4
17°	2679.9	2653.3	2630.4	2607.9	2585.0	2571.1
17.5°	2661.5	2634.9	2610.4	2586.7	2563.4	2549.5
18°	2642.7	2615.3	2590.7	2566.2	2542.1	2526.6
18.5°	2623.5	2595.2	2570.7	2545.8	2521.2	2505.3
19°	2603.4	2576.8	2551.1	2526.1	2501.6	2484.8
19.5°	2585.0	2557.2	2531.9	2507.3	2482.4	2465.2
20°	2567.0	2538.4	2513.9	2488.1	2463.2	2446.0
20.5°	2549.0	2520.4	2494.3	2468.9	2443.1	2425.6
21°	2530.6	2501.2	2475.4	2449.3	2423.1	2405.1

TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2474.2	2443.1	2414.5	2381.4	2351.1	2331.5
23°	2453.4	2423.1	2393.3	2356.5	2323.7	2301.3
23.5°	2431.3	2401.4	2369.9	2329.1	2293.1	2268.9
24°	2407.2	2380.2	2345.0	2300.4	2260.4	2232.6
24.5°	2382.2	2355.2	2318.8	2269.8	2225.6	2193.3
25°	2355.6	2330.3	2290.6	2238.7	2189.6	2151.2
25.5°	2327.8	2302.9	2261.2	2206.8	2151.6	2109.9
26°	2298.8	2274.7	2230.1	2174.9	2112.3	2068.2
26.5°	2267.3	2241.6	2196.6	2141.0	2071.9	2026.5
27°	2236.6	2208.0	2161.8	2105.8	2032.2	1985.2
27.5°	2205.6	2170.0	2125.8	2069.8	1992.1	1945.9
28°	2173.3	2129.9	2088.2	2031.8	1953.3	1907.1
28.5°	2140.1	2087.4	2048.6	1992.1	1914.8	1868.6
29°	2105.8	2044.5	2007.3	1950.8	1876.8	1828.6
29.5°	2071.5	1999.1	1964.3	1908.7	1839.2	1789.7
30°	2034.2	1953.7	1919.8	1865.8	1801.6	1749.7
30.5°	1995.8	1909.5	1873.1	1822.8	1762.7	1709.2
31°	1955.7	1866.2	1824.5	1779.5	1722.3	1667.1
31.5°	1914.4	1824.5	1777.9	1734.5	1682.2	1625.4
32°	1872.3	1783.6	1731.7	1690.4	1641.7	1581.2
32.5°	1828.6	1743.5	1686.3	1645.8	1600.0	1538.7
33°	1784.0	1703.9	1642.9	1601.6	1555.0	1497.0
33.5°	1739.0	1664.2	1598.8	1556.7	1511.7	1455.7
34°	1695.3	1624.1	1556.7	1512.5	1466.3	1415.6
34.5°	1651.9	1580.8	1513.7	1467.1	1421.7	1375.5
35°	1609.4	1537.8	1470.8	1422.5	1376.3	1336.3
35.5°	1567.7	1494.5	1427.4	1378.8	1334.2	1297.8
36°	1526.0	1450.8	1383.7	1335.9	1291.3	1259.8
36.5°	1484.3	1407.8	1340.4	1292.9	1250.0	1221.0
37°	1443.0	1363.7	1297.0	1248.8	1209.1	1181.7
37.5°	1400.1	1321.5	1254.5	1206.2	1170.3	1142.4
38°	1357.5	1280.7	1212.4	1163.7	1129.4	1103.2
38.5°	1315.4	1241.0	1171.1	1122.4	1089.7	1063.9
39°	1273.7	1201.7	1132.2	1080.7	1049.2	1026.3
39.5°	1230.4	1162.1	1093.4	1040.2	1008.3	987.9
40°	1188.2	1122.8	1055.8	1000.2	968.3	950.7
40.5°	1145.7	1083.6	1019.0	961.3	929.0	914.7
41°	1106.5	1043.5	982.2	923.3	890.2	879.9
41.5°	1064.8	1005.1	946.6	887.7	853.0	844.8
42°	1025.1	965.8	910.6	852.1	817.8	810.0
42.5°	985.0	927.8	877.9	819.4	784.3	776.9
43°	947.4	890.2	842.7	786.7	751.5	743.8
43.5°	907.7	854.6	809.2	754.8	720.1	711.1

TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	798.6	752.8	712.3	667.3	633.8	619.9
45.5°	762.6	720.9	682.4	640.7	608.0	593.7
46°	729.1	690.2	653.8	615.8	583.1	569.2
46.5°	695.5	659.5	625.6	591.3	559.8	545.9
47°	663.6	630.5	598.6	567.1	537.7	524.6
47.5°	633.4	601.9	573.7	545.1	517.3	505.4
48°	603.9	574.9	548.7	524.6	498.4	488.2
48.5°	577.4	548.3	525.8	505.0	480.4	471.9
49°	550.4	523.8	504.6	486.2	464.1	457.1
49.5°	526.2	500.5	484.1	468.2	449.0	442.8
50°	503.3	478.4	464.5	451.0	434.7	429.7
50.5°	481.7	457.6	446.1	435.1	421.2	417.5
51°	461.2	439.2	429.3	419.9	408.1	405.6
51.5°	442.8	422.0	413.4	406.0	395.8	393.8
52°	425.2	406.0	399.1	392.1	384.4	382.7
52.5°	408.9	391.7	385.2	379.5	372.9	371.7
53°	393.8	378.2	372.1	367.2	362.3	361.1
53.5°	379.5	366.0	359.8	356.1	352.1	351.2
54°	366.4	354.5	349.2	345.9	343.1	342.2
54.5°	354.9	344.7	340.2	337.3	334.9	334.5
55°	346.3	335.7	332.0	329.6	327.1	326.7
55.5°	337.3	327.9	323.8	321.4	318.9	318.9
56°	328.8	319.8	315.7	313.6	311.2	311.2
56.5°	320.2	311.6	307.9	305.4	303.0	303.0
57°	311.2	303.0	299.7	297.3	295.2	295.2
57.5°	303.0	294.4	291.1	289.1	287.5	287.5
58°	294.8	286.6	283.4	281.3	279.7	279.7
58.5°	286.6	278.5	275.2	273.5	271.9	271.9
59°	278.0	270.7	267.4	265.8	264.6	264.6
59.5°	270.3	262.5	259.6	258.4	257.2	256.8
60°	262.5	255.1	252.3	251.1	249.8	249.0
60.5°	254.7	247.4	244.9	244.1	242.9	241.7
61°	247.4	240.4	238.0	236.7	235.9	234.3
61.5°	240.0	233.5	231.0	229.8	228.6	227.3
62°	233.1	226.5	224.5	223.3	222.0	220.0
62.5°	226.1	219.6	217.1	216.7	215.1	213.0
63°	219.2	213.0	211.0	210.2	208.5	206.1
63.5°	213.0	206.5	204.4	204.0	202.0	199.5
64°	206.5	200.4	198.3	197.9	195.5	193.0
64.5°	199.9	194.2	192.2	191.8	189.3	186.5
65°	193.8	188.1	186.5	186.0	183.2	179.9
65.5°	187.7	182.4	180.7	179.9	177.1	173.8
66°	182.0	176.6	175.0	174.6	170.9	167.6



TEST NUMBER: P776309

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	165.2	159.9	158.7	157.8	153.3	150.1
68°	159.5	154.6	153.3	152.9	147.2	144.7
68.5°	154.6	149.7	147.6	147.2	142.3	139.4
69°	149.2	144.7	143.1	142.3	137.4	134.1
69.5°	143.9	139.8	138.2	137.4	132.1	128.8
70°	139.0	134.9	133.7	132.9	127.2	123.5
70.5°	134.1	130.4	128.8	128.0	121.9	118.2
71°	129.6	125.5	123.9	123.1	116.9	113.3
71.5°	124.7	120.6	119.4	118.2	112.0	108.4
72°	120.2	116.1	114.9	113.7	107.1	103.0
72.5°	115.3	111.6	110.4	108.8	102.2	98.1
73°	110.8	107.1	105.9	104.3	97.7	93.2
73.5°	106.3	102.6	101.4	99.8	92.8	88.7
74°	102.2	98.5	97.3	95.3	88.3	84.2
74.5°	97.7	94.0	92.8	91.2	83.8	79.7
75°	93.6	90.0	88.7	86.7	79.3	75.2
75.5°	89.5	85.9	84.6	82.6	75.2	70.7
76°	85.5	81.8	80.6	78.1	70.7	66.6
76.5°	81.4	77.7	76.5	74.0	66.2	62.6
77°	77.3	74.0	72.8	69.9	62.2	58.5
77.5°	73.6	69.9	68.7	66.2	58.1	54.4
78°	69.5	66.2	65.0	62.2	54.0	50.3
78.5°	65.8	62.6	61.3	58.5	50.3	46.2
79°	62.2	58.9	57.7	54.4	46.2	42.5
79.5°	58.5	55.2	54.0	50.7	42.5	38.8
80°	54.8	51.5	50.3	47.4	38.8	35.2
80.5°	51.1	48.2	47.0	43.8	35.2	31.5
81°	47.8	44.6	43.3	40.1	31.5	27.8
81.5°	44.2	41.3	40.1	36.8	28.2	24.5
82°	40.9	38.0	36.8	33.5	24.9	20.9
82.5°	37.6	34.8	33.5	30.7	21.7	17.6
83°	34.8	31.5	30.3	27.4	18.8	14.3
83.5°	31.5	28.2	27.0	24.5	16.4	12.3
84°	28.2	24.9	23.7	21.7	14.3	10.2
84.5°	24.9	22.1	20.9	18.8	12.7	8.2
85°	22.1	18.8	18.0	15.9	10.6	6.1
85.5°	18.8	15.9	14.7	13.5	8.6	4.9
86°	15.9	13.5	12.3	10.6	7.0	3.7
86.5°	13.1	10.6	9.4	8.2	5.3	2.9
87°	10.6	7.8	6.5	5.3	3.7	1.6
87.5°	7.8	4.9	3.7	2.9	2.0	0.8
88°	4.9	2.5	1.6	1.2	0.8	0.4
88.5°	2.5	0.8	0.4	0.4	0.4	0.0



TEST NUMBER: P776309
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRMW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.4	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°	2383.8	2372.8	2373.6	2383.4	2419.0	2445.2	2471.4	2497.5	2515.5	2525.3	2524.9
22°	2359.3	2347.0	2347.9	2358.9	2399.0	2426.0	2453.0	2478.3	2497.1	2507.3	2506.5



44°	679.2	684.5	691.0	699.2	736.4	759.3	791.6	841.9	873.0	888.9	882.8
44.5°	649.3	658.3	664.9	673.0	704.9	727.8	759.3	809.2	838.6	850.9	846.4



66.5°	161.9	165.6	170.9	172.1	178.3	180.3	180.7	177.9	173.0	174.6	177.9
67°	155.8	159.9	165.2	166.8	173.0	174.6	175.4	172.1	167.2	168.9	172.1



89°	0.0	0.4	0.0	0.0	0.8	1.2	1.6	1.6	0.8	1.2	1.2
89.5°	0.0	0.4	0.0	0.0	0.0	0.4	0.4	0.4	0.0	0.4	0.4

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°	2511.8	2481.6	2455.8	2428.4	2401.0	2383.8
22°	2493.8	2463.2	2435.8	2405.5	2377.3	2359.3



44°	870.9	819.0	776.5	724.6	689.8	679.2
44.5°	833.7	785.5	744.6	695.1	661.2	649.3

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

Scaled Data Report



66.5°	176.2	170.9	169.3	168.9	164.8	161.9
67°	170.5	165.2	164.0	163.6	159.1	155.8

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

Scaled Data Report



89°	0.8	0.0	0.0	0.0	0.4	0.0
89.5°	0.0	0.0	0.0	0.0	0.4	0.0

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

Scaled Data Report



(END OF REPORT)