

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: P776237

Luminaire Tested: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776237
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B028)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD41TRC-4000lm-3500K
Description: 4 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

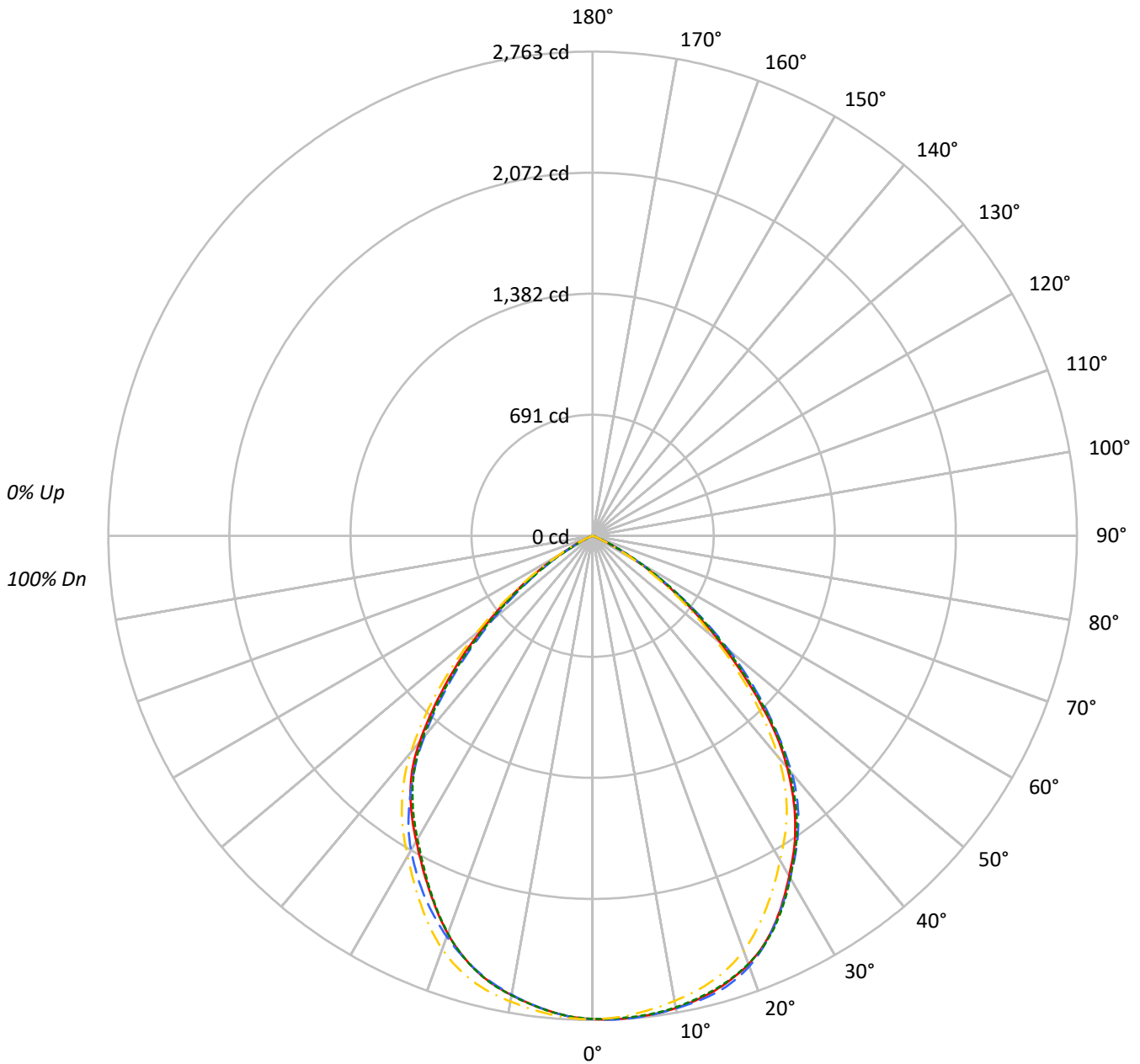
Lumens per Lamp: N/A
Luminaire Lumens: 4809.4 lumens
Efficiency: N/A
Efficacy: 124.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): 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: P776237
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	93	91					91			
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81					81			
3	98	90	83	78	95	88	82	78	85	80	76	83	79	75	80	77	74	72					72			
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64					64			
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58					58			
6	79	68	61	55	77	67	60	55	65	59	55	64	58	54	62	58	54	52					52			
7	74	62	55	50	72	62	55	50	60	54	49	59	53	49	58	53	49	47					47			
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43					43			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	44	41	39					39			
10	61	49	42	38	60	49	42	38	48	42	38	47	42	37	46	41	37	36					36			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	347119	347119	347119	347119
5°	348596	347990	344377	344428
10°	349777	349177	340180	340334
15°	350192	349423	334648	334804
20°	348370	348263	323660	323339
25°	340332	341540	307644	306644
30°	325761	327781	292367	290463
35°	309588	312093	278370	275190
40°	283753	286760	251948	248219
45°	241730	245913	208413	202878
50°	187604	192596	158725	151872
55°	131647	136957	106261	98933
60°	75862	81072	54845	48427
65°	26414	29957	14919	11852
70°	883	1913	883	736
75°	778	972	778	778
80°	580	870	580	580
85°	0	578	0	578

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 249241 cd/sqm



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	260.3	5.4
10°-20°	740.3	15.4
20°-30°	1074.1	22.3
30°-40°	1191.2	24.8
40°-50°	967.3	20.1
50°-60°	485.6	10.1
60°-70°	88.3	1.8
70°-80°	1.8	0.0
80°-90°	0.4	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2074.7	43.1
0°-40°	3266.0	67.9
0°-60°	4718.9	98.1
0°-90°	4809.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4809.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2758	2758	2758	2758	2758	
5°	2759	2755	2726	2726	2759	263
15°	2688	2682	2568	2570	2688	758
25°	2451	2460	2216	2208	2451	1125
35°	2015	2031	1812	1791	2015	1253
45°	1358	1382	1171	1140	1358	1039
55°	600	624	484	451	600	541
65°	89	101	50	40	89	105
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2
0.5°	2759.4	2759.4	2759.8	2760.6	2757.4	2758.2	2758.6	2758.6	2756.6	2756.2	2757.0
1°	2760.6	2760.6	2761.0	2761.4	2758.2	2757.8	2757.8	2757.8	2755.0	2754.2	2755.4
1.5°	2761.4	2761.4	2762.2	2762.2	2758.6	2757.4	2756.6	2755.4	2753.0	2752.2	2753.4
2°	2761.8	2762.2	2762.6	2762.6	2758.2	2756.6	2755.0	2752.6	2750.7	2749.5	2750.7
2.5°	2761.8	2763.0	2763.4	2762.6	2757.8	2755.8	2753.4	2750.3	2747.9	2746.7	2747.9
3°	2761.8	2763.0	2763.4	2762.6	2757.4	2754.6	2751.4	2747.1	2744.3	2743.1	2744.7
3.5°	2761.8	2763.0	2763.4	2762.2	2757.4	2753.0	2748.7	2743.5	2739.9	2738.7	2740.7
4°	2761.0	2762.6	2763.0	2762.2	2756.2	2751.8	2745.9	2739.9	2735.5	2734.7	2736.3
4.5°	2760.2	2762.2	2762.6	2761.4	2755.4	2749.9	2743.1	2735.9	2730.8	2729.6	2731.2
5°	2759.4	2761.0	2761.4	2760.6	2754.6	2748.3	2739.5	2731.2	2726.0	2724.4	2726.0
5.5°	2757.8	2760.2	2760.2	2759.0	2753.4	2745.9	2735.9	2726.4	2720.0	2718.8	2720.4
6°	2756.2	2758.6	2758.6	2757.8	2752.2	2743.5	2732.0	2721.2	2714.5	2713.3	2714.5
6.5°	2755.0	2757.0	2756.6	2755.8	2750.7	2741.1	2728.0	2716.1	2708.9	2707.3	2708.5
7°	2753.0	2755.0	2755.0	2753.8	2749.1	2737.9	2723.6	2710.5	2702.5	2701.0	2702.1
7.5°	2751.4	2752.6	2752.6	2751.8	2746.7	2735.1	2719.2	2704.9	2696.2	2694.6	2695.0
8°	2749.1	2749.9	2750.3	2749.5	2744.7	2732.0	2714.9	2699.4	2689.8	2687.8	2688.6
8.5°	2746.3	2747.1	2747.5	2746.7	2742.3	2728.4	2710.5	2693.8	2683.1	2681.1	2681.1
9°	2743.5	2744.3	2744.7	2743.5	2739.1	2724.8	2705.7	2687.4	2676.7	2674.3	2673.9
9.5°	2740.3	2740.7	2741.9	2739.9	2735.9	2721.2	2700.6	2681.5	2669.5	2667.2	2666.8
10°	2737.1	2737.1	2739.1	2736.3	2732.4	2716.9	2695.8	2675.1	2662.0	2660.4	2659.2
10.5°	2733.2	2733.6	2736.3	2733.2	2728.8	2712.1	2690.2	2668.7	2654.8	2653.6	2651.6
11°	2729.2	2729.6	2733.6	2729.2	2724.4	2706.9	2684.7	2662.0	2646.9	2646.1	2643.3
11.5°	2724.8	2725.2	2730.0	2724.8	2719.6	2701.4	2679.1	2655.2	2638.9	2638.5	2634.9
12°	2720.8	2721.2	2727.2	2720.4	2714.9	2696.2	2673.1	2648.5	2630.2	2630.6	2626.6
12.5°	2716.1	2716.9	2723.6	2715.3	2710.1	2690.2	2667.2	2641.3	2621.4	2622.6	2617.9
13°	2711.3	2712.5	2720.4	2710.1	2704.9	2684.3	2661.2	2634.2	2612.3	2613.9	2608.3
13.5°	2705.7	2707.3	2716.5	2704.5	2699.4	2677.5	2654.4	2626.6	2602.3	2605.1	2598.4
14°	2700.2	2701.7	2712.5	2699.0	2693.8	2671.1	2647.3	2618.3	2592.0	2596.0	2587.6
14.5°	2694.6	2695.8	2707.7	2693.0	2687.8	2664.0	2639.7	2609.1	2580.9	2585.6	2576.9
15°	2687.8	2689.8	2702.9	2686.2	2681.9	2656.4	2631.8	2600.0	2568.5	2575.3	2565.8
15.5°	2681.1	2682.7	2697.0	2679.1	2675.5	2648.9	2623.4	2589.6	2555.8	2564.2	2553.8
16°	2673.9	2674.7	2691.0	2671.1	2668.3	2640.5	2614.3	2579.3	2542.7	2551.8	2541.1
16.5°	2666.0	2666.4	2683.5	2662.8	2661.2	2631.4	2604.3	2567.8	2528.8	2539.5	2529.2
17°	2657.6	2657.6	2675.5	2653.6	2653.6	2622.2	2593.6	2556.2	2514.1	2526.8	2516.9
17.5°	2648.9	2648.5	2666.8	2644.5	2645.7	2611.9	2582.5	2543.5	2499.4	2512.9	2503.7
18°	2640.5	2638.9	2657.6	2634.6	2637.3	2601.9	2571.7	2529.6	2484.3	2498.6	2490.6
18.5°	2631.4	2629.0	2647.7	2624.2	2628.6	2590.8	2559.4	2516.1	2468.4	2482.7	2476.7
19°	2622.2	2618.6	2636.9	2613.9	2619.8	2580.1	2546.7	2501.4	2451.7	2467.2	2462.8
19.5°	2612.3	2607.9	2625.8	2603.1	2610.3	2568.5	2533.2	2485.8	2434.6	2450.9	2448.5
20°	2601.2	2596.4	2614.3	2591.6	2600.4	2556.2	2519.2	2469.9	2416.7	2433.8	2434.2
20.5°	2590.0	2584.5	2601.2	2579.3	2589.2	2543.5	2504.5	2452.4	2398.8	2415.1	2418.7
21°	2577.7	2571.7	2587.6	2567.0	2578.1	2530.0	2489.0	2434.6	2378.9	2396.4	2403.1

TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2536.7	2530.0	2542.3	2525.2	2539.9	2485.1	2438.5	2376.1	2318.9	2336.3	2354.6
23°	2521.6	2514.9	2525.2	2510.5	2525.2	2469.1	2420.2	2356.2	2298.2	2315.3	2337.9
23.5°	2504.9	2499.4	2508.1	2495.4	2509.7	2452.4	2402.0	2335.2	2277.5	2294.2	2321.6
24°	2487.8	2483.5	2490.2	2479.9	2493.8	2435.4	2382.5	2314.1	2256.4	2273.1	2304.9
24.5°	2469.9	2467.6	2472.3	2464.4	2477.1	2417.5	2363.4	2292.6	2236.1	2251.3	2287.8
25°	2450.9	2451.3	2454.0	2448.9	2459.6	2400.4	2343.9	2271.1	2215.5	2229.8	2269.9
25.5°	2432.2	2434.6	2435.4	2432.6	2441.3	2382.1	2324.4	2248.9	2194.8	2207.9	2251.7
26°	2412.7	2417.9	2415.9	2416.3	2423.0	2363.8	2304.5	2228.2	2174.5	2186.4	2233.0
26.5°	2392.8	2401.2	2396.8	2400.0	2403.9	2345.1	2284.3	2206.7	2153.8	2164.2	2213.9
27°	2372.1	2384.1	2377.3	2382.9	2383.7	2325.6	2264.4	2185.3	2133.2	2141.9	2194.4
27.5°	2350.7	2366.6	2357.4	2365.0	2363.4	2305.7	2244.1	2163.8	2112.1	2120.4	2174.1
28°	2329.2	2348.3	2337.1	2347.1	2342.3	2285.8	2223.4	2142.3	2091.4	2099.0	2154.2
28.5°	2307.3	2330.0	2316.5	2328.4	2320.4	2265.6	2202.7	2120.8	2071.5	2077.9	2133.6
29°	2285.5	2310.9	2295.4	2309.3	2299.0	2244.9	2181.3	2099.8	2051.3	2057.2	2112.9
29.5°	2264.0	2292.2	2275.5	2290.2	2277.5	2224.6	2160.6	2079.1	2031.4	2036.2	2092.2
30°	2241.7	2273.5	2255.2	2270.3	2255.6	2203.9	2139.9	2058.4	2011.9	2015.5	2071.1
30.5°	2220.2	2254.0	2234.6	2250.5	2233.0	2183.7	2119.3	2037.7	1992.8	1995.2	2050.5
31°	2198.8	2234.2	2213.5	2230.6	2211.5	2163.8	2099.0	2018.3	1973.7	1975.3	2028.6
31.5°	2178.1	2214.7	2194.0	2209.9	2190.4	2143.1	2078.7	1999.2	1954.2	1955.0	2005.5
32°	2155.8	2194.8	2173.7	2190.0	2169.4	2122.8	2058.8	1979.7	1935.2	1935.6	1981.3
32.5°	2135.6	2174.9	2154.2	2169.4	2147.9	2103.0	2038.9	1959.8	1916.5	1914.9	1956.2
33°	2113.7	2153.4	2133.2	2148.7	2127.2	2082.7	2018.7	1939.9	1896.2	1893.8	1929.2
33.5°	2090.6	2131.2	2112.9	2126.4	2104.5	2062.0	1997.2	1919.3	1875.5	1871.5	1901.4
34°	2065.6	2106.5	2091.0	2102.6	2081.5	2039.3	1975.7	1898.6	1854.8	1849.7	1873.5
34.5°	2040.5	2081.5	2068.0	2077.1	2056.8	2016.7	1953.4	1877.1	1833.4	1826.6	1844.5
35°	2015.1	2054.8	2044.5	2050.9	2031.4	1992.0	1930.8	1855.2	1811.9	1803.6	1815.5
35.5°	1988.8	2028.2	2021.4	2024.6	2005.5	1967.8	1907.3	1833.0	1789.6	1779.3	1786.5
36°	1962.6	2000.8	1997.6	1996.4	1980.1	1942.7	1882.3	1810.3	1766.6	1755.0	1756.6
36.5°	1936.0	1972.9	1972.5	1968.6	1951.5	1915.7	1856.8	1786.5	1742.7	1728.8	1726.4
37°	1907.3	1943.9	1945.9	1939.5	1924.0	1887.8	1830.2	1761.4	1717.7	1702.6	1696.2
37.5°	1879.1	1914.1	1920.1	1910.1	1895.0	1859.2	1803.2	1736.4	1691.8	1675.1	1665.6
38°	1848.9	1883.1	1891.8	1879.9	1865.6	1830.2	1775.3	1708.5	1664.4	1644.5	1634.2
38.5°	1819.1	1852.1	1862.4	1848.9	1836.2	1800.8	1744.7	1678.7	1635.0	1611.9	1600.4
39°	1790.0	1821.4	1833.0	1818.3	1807.1	1770.2	1712.9	1648.1	1602.8	1578.5	1563.8
39.5°	1758.6	1788.8	1801.2	1786.1	1776.5	1739.1	1680.7	1615.5	1569.0	1544.7	1528.0
40°	1727.2	1755.0	1766.6	1752.7	1745.5	1706.1	1647.3	1582.1	1533.6	1509.3	1491.8
40.5°	1693.8	1720.1	1731.6	1717.7	1712.9	1672.3	1612.7	1548.3	1498.2	1471.9	1454.8
41°	1662.0	1684.7	1696.2	1682.3	1680.7	1637.7	1577.3	1513.3	1462.4	1435.0	1418.3
41.5°	1627.4	1648.5	1659.6	1646.5	1646.9	1602.4	1542.3	1478.3	1425.8	1398.4	1380.5
42°	1592.4	1612.3	1623.4	1611.1	1612.7	1565.8	1506.9	1442.5	1390.0	1359.8	1342.7
42.5°	1554.6	1575.3	1587.3	1575.3	1576.1	1529.6	1470.8	1406.3	1353.5	1320.9	1304.2
43°	1518.5	1538.7	1550.7	1538.3	1539.5	1493.4	1434.6	1369.8	1317.3	1282.7	1266.4
43.5°	1479.5	1501.4	1513.3	1501.8	1500.2	1455.2	1397.2	1334.0	1280.7	1244.5	1227.8



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1358.2	1387.7	1400.4	1389.2	1381.7	1339.9	1283.9	1223.4	1171.0	1130.0	1112.9
45.5°	1317.3	1349.5	1362.2	1353.1	1340.3	1300.2	1246.1	1188.1	1134.4	1092.6	1075.5
46°	1276.3	1311.3	1324.0	1314.9	1299.4	1259.6	1207.5	1151.1	1097.4	1054.9	1037.0
46.5°	1234.6	1272.3	1285.9	1275.5	1258.8	1219.9	1169.8	1114.9	1061.6	1018.3	999.2
47°	1194.0	1233.4	1246.9	1235.8	1218.3	1180.1	1130.8	1077.9	1024.6	981.7	961.0
47.5°	1153.9	1193.2	1207.9	1197.6	1177.7	1139.9	1092.6	1041.7	988.5	944.3	924.0
48°	1113.7	1153.9	1169.8	1158.6	1138.8	1099.8	1054.1	1004.8	952.7	908.5	886.7
48.5°	1073.5	1114.5	1130.4	1119.3	1099.8	1059.6	1017.1	969.0	916.9	873.5	850.1
49°	1035.8	1075.5	1092.2	1079.9	1060.8	1021.1	978.9	932.0	880.7	837.4	813.9
49.5°	996.4	1036.6	1053.7	1040.9	1021.9	982.5	941.5	895.8	845.7	802.4	778.5
50°	958.2	997.2	1014.7	1001.6	983.7	943.9	904.2	859.2	810.7	767.8	742.7
50.5°	919.7	957.4	976.1	963.0	946.7	905.0	867.2	823.4	776.5	734.0	708.5
51°	882.7	919.3	936.4	923.6	908.9	867.6	830.2	788.1	741.5	699.4	674.7
51.5°	845.3	881.9	898.6	886.3	872.0	831.4	794.0	753.1	708.1	666.4	642.1
52°	809.5	844.1	860.4	848.9	835.4	794.4	758.2	718.5	675.1	633.8	609.5
52.5°	772.6	806.3	822.7	811.9	798.4	759.4	722.9	683.1	641.7	602.0	577.7
53°	737.6	769.4	784.9	774.9	762.6	723.2	687.1	649.3	609.1	569.4	546.7
53.5°	701.4	733.2	746.3	738.0	727.2	688.3	652.9	616.3	576.9	538.4	517.3
54°	667.6	697.4	708.9	701.4	692.2	653.7	619.1	583.3	545.1	507.7	487.5
54.5°	633.8	661.2	672.4	666.4	657.6	620.7	585.7	551.1	514.1	477.9	458.0
55°	600.0	627.4	637.0	631.4	624.2	587.7	553.5	518.9	484.3	448.5	430.2
55.5°	566.6	592.8	600.8	597.6	591.6	554.7	520.9	487.5	454.1	420.3	402.8
56°	534.8	559.0	566.2	563.8	557.8	522.9	489.1	457.2	425.0	392.4	377.3
56.5°	503.4	525.6	532.4	530.0	525.6	491.4	458.8	427.8	396.4	367.0	352.3
57°	471.6	493.8	499.0	498.2	493.8	461.2	428.6	398.0	370.2	341.5	327.2
57.5°	441.3	462.4	466.0	466.4	463.6	431.8	399.2	371.0	343.9	316.1	301.8
58°	411.9	431.0	434.2	435.8	433.0	402.8	372.6	344.3	317.7	290.7	276.7
58.5°	383.3	401.2	404.0	405.6	403.6	376.1	345.9	317.3	291.4	264.8	254.1
59°	355.5	372.2	374.1	375.7	376.5	349.9	319.3	290.3	265.2	242.1	232.2
59.5°	327.6	343.9	345.5	347.5	349.1	323.3	292.6	263.6	241.0	219.9	210.3
60°	301.4	316.1	318.1	320.1	322.1	296.6	266.4	239.4	217.9	198.4	190.5
60.5°	275.5	289.1	291.0	293.4	294.6	270.4	242.9	216.3	196.0	178.5	171.0
61°	250.5	263.6	265.2	266.8	267.6	246.5	219.1	194.4	174.6	159.0	153.1
61.5°	227.4	239.0	241.3	242.5	242.9	223.1	197.6	173.4	154.7	141.2	136.0
62°	204.0	215.5	218.3	218.7	219.5	201.2	176.9	153.1	135.6	124.1	119.7
62.5°	182.1	192.4	196.0	196.0	196.4	179.7	157.1	134.4	117.7	107.8	104.6
63°	161.8	171.0	174.6	174.2	174.9	159.0	138.0	117.3	100.2	93.0	90.7
63.5°	141.9	150.7	155.1	153.5	154.7	140.0	120.9	100.6	85.1	79.1	77.5
64°	124.1	133.6	136.0	135.2	135.6	121.7	104.6	85.9	71.2	66.8	66.4
64.5°	106.2	116.9	120.1	118.9	117.3	105.0	89.5	71.6	58.4	56.1	55.7
65°	88.7	99.8	104.2	102.6	100.6	89.5	75.5	59.2	50.1	48.1	48.1
65.5°	70.8	82.7	88.3	86.3	85.1	74.8	62.4	50.9	42.1	40.6	40.6
66°	52.9	66.0	72.4	70.0	70.8	61.6	53.3	42.1	33.8	33.0	33.4



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	17.9	31.8	37.4	35.8	40.2	34.2	26.6	16.3	11.9	12.7	13.1
68°	14.7	23.5	27.8	27.0	31.0	25.0	17.5	11.9	7.6	8.7	8.7
68.5°	11.5	16.7	19.9	19.5	22.3	15.9	11.9	8.0	4.4	5.6	5.6
69°	8.3	13.9	13.5	13.5	13.1	10.7	8.0	5.2	2.8	3.6	3.6
69.5°	5.2	11.1	10.7	10.7	8.3	6.8	4.4	3.2	2.4	2.4	2.4
70°	2.4	8.3	8.0	8.0	5.2	3.6	2.8	2.4	2.4	2.4	2.4
70.5°	2.0	5.2	5.2	5.2	3.2	2.4	2.4	2.0	2.0	2.4	2.4
71°	2.0	2.4	2.8	2.8	2.4	2.4	2.0	2.0	2.0	2.0	2.4
71.5°	2.0	2.4	2.4	2.4	2.4	2.0	2.0	2.0	2.0	2.0	2.0
72°	2.0	2.0	2.4	2.4	2.4	2.0	2.0	2.0	2.0	2.0	2.0
72.5°	2.0	2.0	2.4	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0
73°	2.0	2.0	2.4	2.4	2.0	2.0	2.0	1.6	2.0	2.0	2.0
73.5°	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	2.0	2.0
74°	1.6	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6	2.0
74.5°	1.6	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6
75°	1.6	1.6	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6
75.5°	1.6	1.6	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6
76°	1.6	1.6	1.6	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6
76.5°	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.6	1.6
77°	1.2	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.6
77.5°	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.6	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2
79°	1.2	1.2	1.2	1.6	1.2	1.2	1.2	1.2	1.2	1.2	1.2
79.5°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	1.2
80°	0.8	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	0.8	1.2
80.5°	0.8	0.8	1.2	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	1.2	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.8	0.8	0.8	1.2	1.2	0.8	0.8	0.8	0.8	0.8	0.8
82°	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.4	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
83°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.8	0.8	0.4	0.4	0.4	0.0	0.4	0.4
85°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4
85.5°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86°	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.4	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: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-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	0.4	0.4



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2758.2	2758.2	2758.2	2758.2	2758.2	2758.2
0.5°	2757.8	2755.8	2757.4	2758.6	2759.8	2759.4
1°	2756.2	2754.2	2756.6	2758.6	2760.6	2760.6
1.5°	2754.2	2752.2	2755.4	2758.6	2760.6	2761.4
2°	2752.2	2749.9	2753.4	2757.4	2760.2	2761.8
2.5°	2749.5	2747.1	2751.4	2755.8	2759.8	2761.8
3°	2746.3	2743.9	2748.3	2753.8	2759.0	2761.8
3.5°	2742.7	2740.3	2745.1	2751.4	2757.8	2761.8
4°	2738.3	2735.9	2741.5	2749.1	2756.2	2761.0
4.5°	2733.6	2731.6	2737.1	2745.9	2754.6	2760.2
5°	2728.4	2726.4	2732.8	2742.3	2753.0	2759.4
5.5°	2722.8	2720.8	2728.0	2738.7	2751.1	2757.8
6°	2716.9	2715.3	2722.8	2734.7	2748.7	2756.2
6.5°	2710.9	2709.3	2717.7	2730.8	2745.9	2755.0
7°	2704.5	2703.3	2712.5	2726.8	2743.5	2753.0
7.5°	2698.2	2697.0	2706.5	2722.4	2740.3	2751.4
8°	2691.8	2690.6	2701.0	2718.1	2737.5	2749.1
8.5°	2685.0	2684.3	2695.0	2713.7	2734.0	2746.3
9°	2678.3	2677.5	2689.0	2708.9	2730.0	2743.5
9.5°	2671.5	2670.3	2682.7	2703.7	2725.6	2740.3
10°	2664.8	2663.2	2675.9	2698.6	2721.2	2737.1
10.5°	2657.6	2656.0	2669.5	2693.4	2716.5	2733.2
11°	2650.5	2648.5	2662.8	2688.2	2711.3	2729.2
11.5°	2642.9	2640.1	2655.2	2682.7	2706.1	2724.8
12°	2635.3	2632.2	2648.1	2677.1	2701.0	2720.8
12.5°	2627.4	2623.0	2640.1	2670.7	2695.0	2716.1
13°	2619.0	2613.9	2631.8	2664.8	2688.6	2711.3
13.5°	2610.7	2603.5	2623.4	2657.6	2682.3	2705.7
14°	2601.2	2592.8	2613.9	2650.1	2675.1	2700.2
14.5°	2591.2	2581.7	2603.5	2642.1	2667.6	2694.6
15°	2580.9	2569.7	2592.8	2633.0	2659.6	2687.8
15.5°	2569.3	2557.0	2581.3	2623.4	2650.5	2681.1
16°	2557.4	2543.5	2568.9	2613.5	2641.3	2673.9
16.5°	2544.7	2529.6	2555.8	2602.7	2631.0	2666.0
17°	2531.6	2514.9	2542.3	2591.2	2621.0	2657.6
17.5°	2518.1	2499.8	2528.0	2578.9	2610.3	2648.9
18°	2503.3	2483.9	2513.3	2566.6	2599.2	2640.5
18.5°	2488.2	2467.6	2498.6	2553.0	2587.6	2631.4
19°	2472.3	2450.9	2482.3	2539.1	2576.1	2622.2
19.5°	2455.6	2433.0	2465.6	2524.4	2563.8	2612.3
20°	2438.1	2414.3	2448.1	2508.9	2551.1	2601.2
20.5°	2419.8	2395.6	2430.2	2493.0	2537.1	2590.0
21°	2401.2	2375.7	2411.5	2475.9	2522.4	2577.7



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2340.7	2314.9	2352.3	2421.4	2476.3	2536.7
23°	2319.6	2293.4	2331.2	2401.6	2459.6	2521.6
23.5°	2298.2	2272.3	2310.9	2381.7	2442.9	2504.9
24°	2276.7	2251.3	2289.8	2361.8	2425.0	2487.8
24.5°	2254.4	2229.8	2268.8	2341.1	2406.7	2469.9
25°	2232.6	2208.3	2247.7	2320.0	2388.0	2450.9
25.5°	2210.7	2186.8	2227.0	2299.8	2370.1	2432.2
26°	2188.0	2165.8	2205.1	2279.1	2351.1	2412.7
26.5°	2165.4	2143.9	2184.1	2258.4	2331.6	2392.8
27°	2143.1	2122.4	2162.6	2236.9	2312.1	2372.1
27.5°	2121.2	2101.0	2141.5	2215.9	2292.2	2350.7
28°	2099.4	2080.3	2119.6	2194.4	2271.5	2329.2
28.5°	2077.9	2059.6	2099.4	2173.3	2251.3	2307.3
29°	2056.0	2038.1	2078.7	2152.3	2230.2	2285.5
29.5°	2035.0	2018.3	2058.0	2132.0	2209.5	2264.0
30°	2014.7	1998.8	2037.3	2111.3	2188.8	2241.7
30.5°	1994.8	1978.9	2017.9	2091.0	2169.0	2220.2
31°	1974.5	1959.4	1998.4	2070.7	2149.1	2198.8
31.5°	1953.8	1939.1	1978.1	2051.3	2128.4	2178.1
32°	1934.0	1919.7	1958.2	2030.2	2107.7	2155.8
32.5°	1913.7	1899.8	1938.3	2010.3	2087.4	2135.6
33°	1891.8	1878.7	1917.7	1989.6	2066.8	2113.7
33.5°	1869.6	1857.6	1896.2	1967.4	2044.5	2090.6
34°	1847.3	1835.4	1874.7	1944.7	2020.6	2065.6
34.5°	1824.6	1813.5	1852.1	1921.6	1995.6	2040.5
35°	1800.8	1791.2	1829.4	1897.8	1970.5	2015.1
35.5°	1777.3	1768.6	1806.7	1873.9	1944.7	1988.8
36°	1751.9	1744.3	1783.7	1848.9	1918.5	1962.6
36.5°	1726.0	1719.7	1759.4	1824.2	1891.0	1936.0
37°	1698.2	1694.2	1733.6	1797.6	1862.8	1907.3
37.5°	1671.1	1668.4	1707.7	1769.4	1833.4	1879.1
38°	1641.7	1640.5	1680.7	1741.1	1803.6	1848.9
38.5°	1609.5	1610.7	1651.7	1712.1	1773.7	1819.1
39°	1576.1	1579.3	1620.7	1680.7	1742.7	1790.0
39.5°	1542.3	1545.9	1587.6	1647.3	1711.3	1758.6
40°	1505.3	1510.9	1553.5	1612.7	1678.3	1727.2
40.5°	1468.4	1474.7	1518.9	1578.1	1644.5	1693.8
41°	1430.6	1437.8	1483.5	1542.7	1608.7	1662.0
41.5°	1393.2	1400.0	1446.9	1507.3	1572.1	1627.4
42°	1354.7	1364.2	1411.5	1471.2	1537.2	1592.4
42.5°	1316.1	1326.4	1374.9	1434.2	1500.6	1554.6
43°	1277.5	1289.8	1338.7	1397.2	1463.6	1518.5
43.5°	1240.1	1250.9	1301.8	1359.8	1424.6	1479.5



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1122.4	1139.9	1191.2	1246.1	1308.9	1358.2
45.5°	1085.5	1102.2	1154.7	1208.3	1269.6	1317.3
46°	1046.5	1065.6	1118.5	1170.6	1229.8	1276.3
46.5°	1008.7	1028.6	1081.1	1131.2	1189.2	1234.6
47°	971.4	992.0	1044.5	1093.4	1149.5	1194.0
47.5°	935.2	954.3	1007.1	1055.3	1109.7	1153.9
48°	898.2	918.5	970.2	1017.5	1070.0	1113.7
48.5°	862.4	881.9	932.8	978.9	1029.8	1073.5
49°	826.2	846.5	896.2	942.7	991.2	1035.8
49.5°	792.8	811.1	859.6	904.6	952.3	996.4
50°	756.6	775.7	823.4	867.2	913.7	958.2
50.5°	722.5	740.3	786.5	830.2	874.7	919.7
51°	688.3	706.2	751.5	794.0	837.4	882.7
51.5°	654.9	672.4	716.1	757.4	800.4	845.3
52°	622.7	639.4	681.5	722.5	764.6	809.5
52.5°	590.1	606.8	646.5	686.7	728.0	772.6
53°	558.2	573.7	613.1	651.7	693.0	737.6
53.5°	527.2	541.9	579.7	616.3	658.4	701.4
54°	497.0	510.9	546.7	582.9	624.2	667.6
54.5°	466.8	480.7	514.9	550.3	591.2	633.8
55°	438.2	450.9	483.5	516.9	558.2	600.0
55.5°	409.9	421.1	452.1	484.3	526.4	566.6
56°	382.5	392.8	421.9	454.1	495.0	534.8
56.5°	356.7	365.0	392.4	423.9	464.8	503.4
57°	331.2	338.0	363.8	394.0	435.0	471.6
57.5°	305.8	310.9	335.2	365.0	405.2	441.3
58°	280.3	286.3	309.3	337.2	377.3	411.9
58.5°	256.9	261.2	282.7	310.5	350.7	383.3
59°	234.2	237.4	257.7	284.7	324.1	355.5
59.5°	212.3	214.7	233.4	260.0	298.6	327.6
60°	191.6	192.4	210.3	235.4	274.0	301.4
60.5°	172.2	171.8	188.5	213.5	249.3	275.5
61°	153.1	151.5	167.4	191.6	225.8	250.5
61.5°	135.6	134.8	147.5	171.4	204.0	227.4
62°	118.9	118.9	132.0	151.5	182.5	204.0
62.5°	103.4	103.0	116.1	135.2	161.8	182.1
63°	89.5	87.1	100.6	119.7	142.7	161.8
63.5°	76.3	70.8	84.7	104.2	126.8	141.9
64°	64.8	58.8	69.2	88.7	111.3	124.1
64.5°	54.5	48.9	57.3	73.2	95.8	106.2
65°	47.3	39.8	46.9	61.2	79.9	88.7
65.5°	39.8	32.2	37.8	50.1	64.4	70.8
66°	32.2	25.4	29.8	40.2	52.1	52.9



TEST NUMBER: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	12.7	11.9	13.1	17.9	23.5	17.9
68°	8.7	9.1	10.3	12.7	16.7	14.7
68.5°	5.6	6.4	7.6	9.9	13.5	11.5
69°	3.6	3.2	5.2	7.2	10.7	8.3
69.5°	2.4	2.4	2.4	4.8	8.0	5.2
70°	2.4	2.0	2.0	2.0	4.8	2.4
70.5°	2.4	2.0	2.0	2.0	2.0	2.0
71°	2.0	2.0	2.0	2.0	2.0	2.0
71.5°	2.0	2.0	2.0	2.0	2.0	2.0
72°	2.0	2.0	1.6	1.6	2.0	2.0
72.5°	2.0	2.0	1.6	1.6	1.6	2.0
73°	2.0	1.6	1.6	1.6	1.6	2.0
73.5°	2.0	1.6	1.6	1.6	1.6	1.6
74°	1.6	1.6	1.6	1.6	1.6	1.6
74.5°	1.6	1.6	1.6	1.6	1.6	1.6
75°	1.6	1.6	1.6	1.6	1.6	1.6
75.5°	1.6	1.6	1.2	1.2	1.2	1.6
76°	1.6	1.6	1.2	1.2	1.2	1.6
76.5°	1.6	1.2	1.2	1.2	1.2	1.2
77°	1.6	1.2	1.2	1.2	1.2	1.2
77.5°	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.2	1.2	1.2	1.2
79°	1.2	1.2	1.2	0.8	0.8	1.2
79.5°	1.2	1.2	0.8	0.8	0.8	0.8
80°	1.2	0.8	0.8	0.8	0.8	0.8
80.5°	0.8	0.8	0.8	0.8	0.8	0.8
81°	0.8	0.8	0.8	0.8	0.8	0.8
81.5°	0.8	0.8	0.8	0.8	0.8	0.8
82°	0.8	0.8	0.8	0.8	0.4	0.8
82.5°	0.8	0.8	0.8	0.4	0.4	0.4
83°	0.8	0.8	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.4	0.0
85.5°	0.4	0.4	0.4	0.4	0.0	0.0
86°	0.4	0.4	0.4	0.4	0.0	0.0
86.5°	0.0	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: P776237

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	0.4	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°	2564.6	2558.2	2572.9	2553.4	2566.2	2515.7	2472.7	2415.9	2359.0	2376.5	2387.2
22°	2551.5	2544.3	2557.8	2539.9	2553.4	2501.0	2456.4	2396.4	2339.1	2356.6	2371.3



44°	1439.7	1464.0	1475.9	1464.8	1462.4	1416.3	1359.0	1296.6	1243.3	1205.9	1189.6
44.5°	1397.2	1426.2	1438.1	1427.8	1420.7	1377.7	1321.6	1260.4	1207.1	1167.4	1151.5



66.5°	39.4	52.9	59.2	57.3	58.1	52.5	44.5	33.4	25.4	25.0	25.8
67°	27.0	41.7	47.7	45.7	48.9	43.3	35.4	25.0	17.5	17.5	18.3



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





21.5°	2381.7	2356.2	2392.4	2458.0	2507.7	2564.6
22°	2361.0	2335.2	2372.5	2440.1	2492.2	2551.5



44°	1199.2	1213.9	1264.4	1322.4	1386.5	1439.7
44.5°	1160.6	1176.5	1227.8	1284.3	1348.3	1397.2



66.5°	24.7	19.9	23.1	31.8	41.0	39.4
67°	17.5	15.1	17.5	24.3	31.4	27.0

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

Scaled Data Report



89°	0.4	0.4	0.0	0.0	0.0	0.0
89.5°	0.4	0.4	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)