

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: P776235

Luminaire Tested: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776235
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: HCDJBL3040CSD-HCD41TRC-4000lm-2700K
Description: 4 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

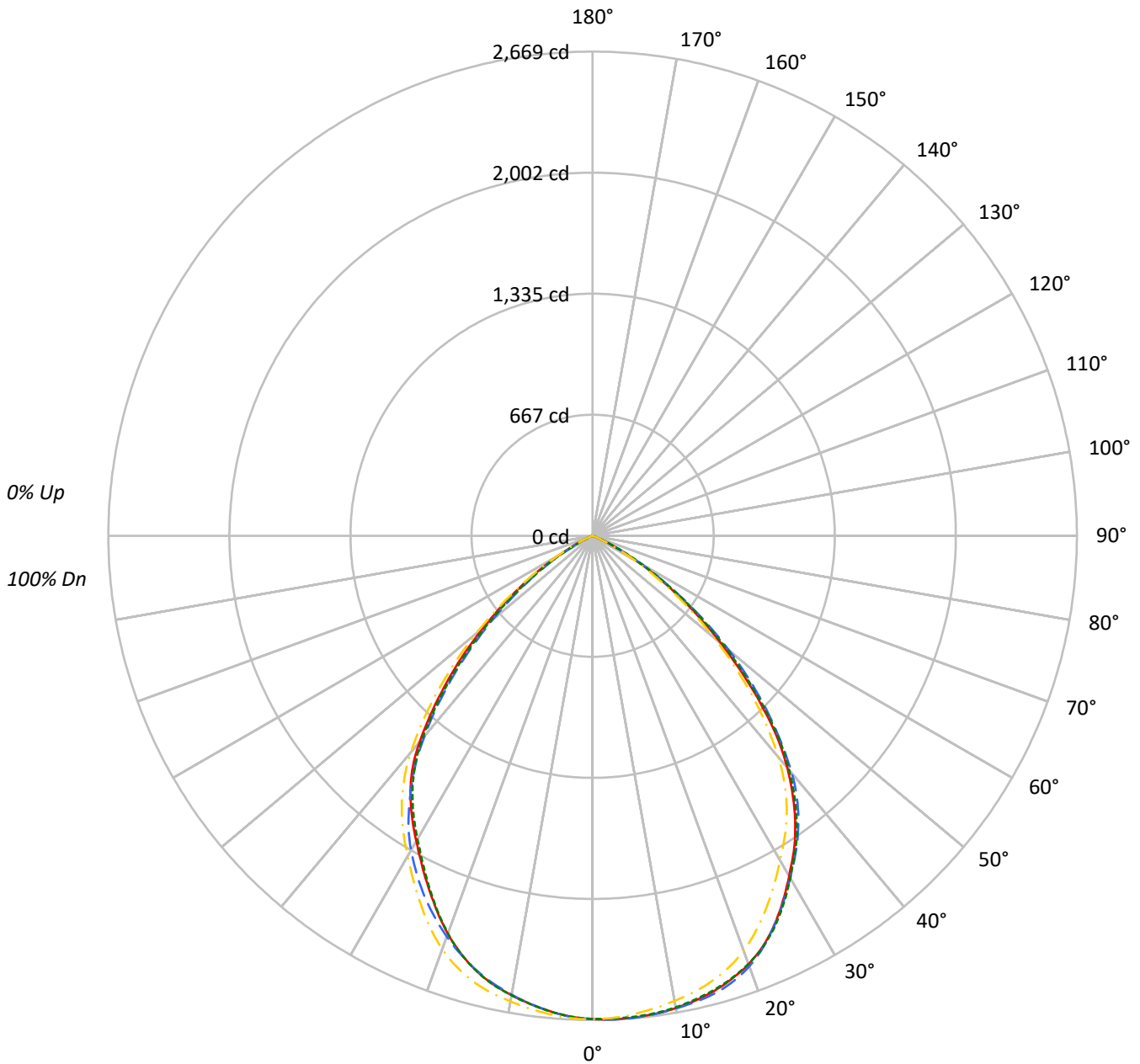
Lumens per Lamp: N/A
Luminaire Lumens: 4645.7 lumens
Efficiency: N/A
Efficacy: 120.7 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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: P776235
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	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°	335302	335302	335302	335302
5°	336734	336153	332654	332704
10°	337880	337292	328602	328743
15°	338283	337527	323261	323417
20°	336504	336410	312638	312330
25°	328737	329917	297174	296216
30°	314673	316635	282413	280582
35°	299049	301461	268891	265833
40°	274093	277001	243372	239774
45°	233508	237548	201311	195972
50°	181221	186037	153321	146704
55°	127171	132306	102641	95554
60°	73270	78304	52983	46791
65°	25490	28945	14413	11435
70°	846	1840	846	699
75°	729	924	729	729
80°	580	870	580	580
85°	0	578	0	578

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 240751 cd/sqm



TEST NUMBER: P776235
 CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.5	5.4
10°-20°	715.1	15.4
20°-30°	1037.6	22.3
30°-40°	1150.7	24.8
40°-50°	934.3	20.1
50°-60°	469.1	10.1
60°-70°	85.3	1.8
70°-80°	1.7	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°	2004.1	43.1
0°-40°	3154.8	67.9
0°-60°	4558.3	98.1
0°-90°	4645.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4645.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2664	2664	2664	2664	2664	
5°	2666	2661	2633	2634	2666	254
15°	2596	2591	2481	2482	2596	732
25°	2367	2376	2140	2133	2367	1086
35°	1946	1962	1750	1730	1946	1210
45°	1312	1335	1131	1101	1312	1004
55°	580	603	468	436	580	523
65°	86	97	48	38	86	102
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3
0.5°	2665.5	2665.5	2665.9	2666.6	2663.6	2664.3	2664.7	2664.7	2662.8	2662.4	2663.2
1°	2666.6	2666.6	2667.0	2667.4	2664.3	2664.0	2664.0	2664.0	2661.3	2660.5	2661.6
1.5°	2667.4	2667.4	2668.2	2668.2	2664.7	2663.6	2662.8	2661.6	2659.3	2658.6	2659.7
2°	2667.8	2668.2	2668.6	2668.6	2664.3	2662.8	2661.3	2659.0	2657.0	2655.9	2657.0
2.5°	2667.8	2668.9	2669.3	2668.6	2664.0	2662.0	2659.7	2656.7	2654.3	2653.2	2654.3
3°	2667.8	2668.9	2669.3	2668.6	2663.6	2660.9	2657.8	2653.6	2650.9	2649.7	2651.3
3.5°	2667.8	2668.9	2669.3	2668.2	2663.6	2659.3	2655.1	2650.1	2646.7	2645.5	2647.4
4°	2667.0	2668.6	2668.9	2668.2	2662.4	2658.2	2652.4	2646.7	2642.4	2641.7	2643.2
4.5°	2666.3	2668.2	2668.6	2667.4	2661.6	2656.3	2649.7	2642.8	2637.8	2636.7	2638.2
5°	2665.5	2667.0	2667.4	2666.6	2660.9	2654.7	2646.3	2638.2	2633.2	2631.7	2633.2
5.5°	2664.0	2666.3	2666.3	2665.1	2659.7	2652.4	2642.8	2633.6	2627.5	2626.3	2627.8
6°	2662.4	2664.7	2664.7	2664.0	2658.6	2650.1	2639.0	2628.6	2622.1	2620.9	2622.1
6.5°	2661.3	2663.2	2662.8	2662.0	2657.0	2647.8	2635.1	2623.6	2616.7	2615.2	2616.3
7°	2659.3	2661.3	2661.3	2660.1	2655.5	2644.7	2630.9	2618.2	2610.6	2609.0	2610.2
7.5°	2657.8	2659.0	2659.0	2658.2	2653.2	2642.1	2626.7	2612.9	2604.4	2602.9	2603.3
8°	2655.5	2656.3	2656.7	2655.9	2651.3	2639.0	2622.5	2607.5	2598.3	2596.4	2597.1
8.5°	2652.8	2653.6	2654.0	2653.2	2649.0	2635.5	2618.2	2602.1	2591.7	2589.8	2589.8
9°	2650.1	2650.9	2651.3	2650.1	2645.9	2632.1	2613.6	2596.0	2585.6	2583.3	2582.9
9.5°	2647.1	2647.4	2648.6	2646.7	2642.8	2628.6	2608.6	2590.2	2578.7	2576.4	2576.0
10°	2644.0	2644.0	2645.9	2643.2	2639.4	2624.4	2604.0	2584.1	2571.4	2569.9	2568.7
10.5°	2640.1	2640.5	2643.2	2640.1	2635.9	2619.8	2598.7	2577.9	2564.5	2563.3	2561.4
11°	2636.3	2636.7	2640.5	2636.3	2631.7	2614.8	2593.3	2571.4	2556.8	2556.0	2553.3
11.5°	2632.1	2632.5	2637.1	2632.1	2627.1	2609.4	2587.9	2564.9	2549.1	2548.7	2545.3
12°	2628.2	2628.6	2634.4	2627.8	2622.5	2604.4	2582.1	2558.3	2540.7	2541.0	2537.2
12.5°	2623.6	2624.4	2630.9	2622.9	2617.9	2598.7	2576.4	2551.4	2532.2	2533.4	2528.8
13°	2619.0	2620.2	2627.8	2617.9	2612.9	2592.9	2570.6	2544.5	2523.4	2524.9	2519.5
13.5°	2613.6	2615.2	2624.0	2612.5	2607.5	2586.4	2564.1	2537.2	2513.8	2516.5	2509.9
14°	2608.3	2609.8	2620.2	2607.1	2602.1	2580.2	2557.2	2529.1	2503.8	2507.6	2499.6
14.5°	2602.9	2604.0	2615.6	2601.3	2596.4	2573.3	2549.9	2520.3	2493.0	2497.6	2489.2
15°	2596.4	2598.3	2610.9	2594.8	2590.6	2566.0	2542.2	2511.5	2481.1	2487.7	2478.4
15.5°	2589.8	2591.4	2605.2	2587.9	2584.4	2558.7	2534.1	2501.5	2468.8	2476.9	2466.9
16°	2582.9	2583.7	2599.4	2580.2	2577.5	2550.6	2525.3	2491.5	2456.2	2465.0	2454.6
16.5°	2575.2	2575.6	2592.1	2572.2	2570.6	2541.8	2515.7	2480.4	2442.7	2453.1	2443.1
17°	2567.2	2567.2	2584.4	2563.3	2563.3	2533.0	2505.3	2469.2	2428.5	2440.8	2431.2
17.5°	2558.7	2558.3	2576.0	2554.5	2555.6	2523.0	2494.6	2456.9	2414.3	2427.4	2418.5
18°	2550.6	2549.1	2567.2	2544.9	2547.6	2513.4	2484.2	2443.5	2399.7	2413.5	2405.9
18.5°	2541.8	2539.5	2557.6	2534.9	2539.1	2502.6	2472.3	2430.4	2384.3	2398.2	2392.4
19°	2533.0	2529.5	2547.2	2524.9	2530.7	2492.3	2460.0	2416.2	2368.2	2383.2	2379.0
19.5°	2523.4	2519.2	2536.4	2514.5	2521.5	2481.1	2446.9	2401.2	2351.7	2367.4	2365.1
20°	2512.6	2508.0	2525.3	2503.4	2511.9	2469.2	2433.5	2385.9	2334.4	2350.9	2351.3
20.5°	2501.9	2496.5	2512.6	2491.5	2501.1	2456.9	2419.3	2369.0	2317.1	2332.9	2336.3
21°	2490.0	2484.2	2499.6	2479.6	2490.3	2443.9	2404.3	2351.7	2297.9	2314.8	2321.4



TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2450.4	2443.9	2455.8	2439.3	2453.5	2400.5	2355.5	2295.2	2239.9	2256.8	2274.5
23°	2435.8	2429.3	2439.3	2425.1	2439.3	2385.1	2337.9	2276.0	2220.0	2236.5	2258.4
23.5°	2419.7	2414.3	2422.8	2410.5	2424.3	2369.0	2320.2	2255.7	2200.0	2216.1	2242.6
24°	2403.2	2398.9	2405.5	2395.5	2408.9	2352.5	2301.4	2235.3	2179.6	2195.8	2226.5
24.5°	2385.9	2383.6	2388.2	2380.5	2392.8	2335.2	2282.9	2214.6	2160.0	2174.6	2210.0
25°	2367.4	2367.8	2370.5	2365.5	2375.9	2318.7	2264.1	2193.8	2140.1	2153.9	2192.7
25.5°	2349.4	2351.7	2352.5	2349.8	2358.2	2301.0	2245.3	2172.3	2120.1	2132.8	2175.0
26°	2330.6	2335.6	2333.6	2334.0	2340.6	2283.3	2226.1	2152.4	2100.5	2112.0	2157.0
26.5°	2311.4	2319.4	2315.2	2318.3	2322.1	2265.3	2206.5	2131.6	2080.5	2090.5	2138.5
27°	2291.4	2302.9	2296.4	2301.8	2302.5	2246.5	2187.3	2110.9	2060.6	2069.0	2119.7
27.5°	2270.7	2286.0	2277.2	2284.5	2282.9	2227.3	2167.7	2090.1	2040.2	2048.3	2100.1
28°	2249.9	2268.4	2257.6	2267.2	2262.6	2208.1	2147.8	2069.4	2020.2	2027.5	2080.9
28.5°	2228.8	2250.7	2237.6	2249.1	2241.5	2188.5	2127.8	2048.7	2001.0	2007.2	2061.0
29°	2207.7	2232.3	2217.3	2230.7	2220.7	2168.5	2107.0	2028.3	1981.4	1987.2	2041.0
29.5°	2186.9	2214.2	2198.1	2212.3	2200.0	2148.9	2087.1	2008.3	1962.2	1966.9	2021.0
30°	2165.4	2196.1	2178.5	2193.1	2178.9	2128.9	2067.1	1988.4	1943.4	1946.9	2000.7
30.5°	2144.7	2177.3	2158.5	2173.9	2157.0	2109.3	2047.1	1968.4	1925.0	1927.3	1980.7
31°	2123.9	2158.1	2138.2	2154.7	2136.2	2090.1	2027.5	1949.6	1906.6	1908.1	1959.6
31.5°	2104.0	2139.3	2119.3	2134.7	2115.9	2070.2	2007.9	1931.1	1887.7	1888.5	1937.3
32°	2082.5	2120.1	2099.7	2115.5	2095.5	2050.6	1988.7	1912.3	1869.3	1869.7	1913.9
32.5°	2062.9	2100.9	2080.9	2095.5	2074.8	2031.4	1969.5	1893.1	1851.2	1849.7	1889.7
33°	2041.7	2080.2	2060.6	2075.5	2054.8	2011.8	1950.0	1873.9	1831.7	1829.4	1863.5
33.5°	2019.5	2058.6	2041.0	2054.0	2032.9	1991.8	1929.2	1853.9	1811.7	1807.8	1836.7
34°	1995.3	2034.8	2019.9	2031.0	2010.6	1969.9	1908.5	1834.0	1791.7	1786.7	1809.8
34.5°	1971.1	2010.6	1997.6	2006.4	1986.8	1948.0	1887.0	1813.2	1771.0	1764.4	1781.7
35°	1946.5	1984.9	1974.9	1981.1	1962.2	1924.2	1865.1	1792.1	1750.2	1742.2	1753.7
35.5°	1921.1	1959.2	1952.6	1955.7	1937.3	1900.8	1842.4	1770.6	1728.7	1718.7	1725.7
36°	1895.8	1932.7	1929.6	1928.4	1912.7	1876.6	1818.2	1748.7	1706.4	1695.3	1696.8
36.5°	1870.1	1905.8	1905.4	1901.6	1885.0	1850.5	1793.6	1725.7	1683.4	1670.0	1667.7
37°	1842.4	1877.7	1879.7	1873.5	1858.5	1823.6	1767.9	1701.5	1659.2	1644.6	1638.5
37.5°	1815.1	1848.9	1854.7	1845.1	1830.5	1795.9	1741.8	1677.3	1634.2	1618.1	1608.9
38°	1786.0	1819.0	1827.4	1815.9	1802.1	1767.9	1714.9	1650.4	1607.7	1588.5	1578.6
38.5°	1757.1	1789.0	1799.0	1786.0	1773.7	1739.5	1685.3	1621.6	1579.3	1557.0	1545.9
39°	1729.1	1759.5	1770.6	1756.4	1745.6	1709.9	1654.6	1592.0	1548.2	1524.8	1510.6
39.5°	1698.8	1728.0	1739.9	1725.3	1716.1	1679.9	1623.5	1560.5	1515.6	1492.1	1476.0
40°	1668.4	1695.3	1706.4	1693.0	1686.1	1648.1	1591.2	1528.2	1481.4	1458.0	1441.1
40.5°	1636.2	1661.5	1672.7	1659.2	1654.6	1615.4	1557.8	1495.6	1447.2	1421.8	1405.3
41°	1605.4	1627.3	1638.5	1625.0	1623.5	1582.0	1523.6	1461.8	1412.6	1386.1	1370.0
41.5°	1572.0	1592.4	1603.1	1590.5	1590.8	1547.8	1489.8	1428.0	1377.3	1350.8	1333.5
42°	1538.2	1557.4	1568.2	1556.3	1557.8	1512.5	1455.6	1393.4	1342.7	1313.5	1297.0
42.5°	1501.7	1521.7	1533.2	1521.7	1522.5	1477.5	1420.7	1358.5	1307.4	1275.9	1259.8
43°	1466.8	1486.4	1497.9	1486.0	1487.1	1442.6	1385.7	1323.1	1272.4	1239.0	1223.3
43.5°	1429.1	1450.3	1461.8	1450.7	1449.1	1405.7	1349.6	1288.6	1237.1	1202.2	1186.0



TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1312.0	1340.4	1352.7	1342.0	1334.7	1294.3	1240.2	1181.8	1131.1	1091.5	1075.0
45.5°	1272.4	1303.6	1315.8	1307.0	1294.7	1255.9	1203.7	1147.6	1095.8	1055.4	1038.9
46°	1232.9	1266.7	1279.0	1270.1	1255.2	1216.8	1166.4	1111.9	1060.0	1019.0	1001.7
46.5°	1192.6	1229.0	1242.1	1232.1	1216.0	1178.3	1130.0	1076.9	1025.5	983.6	965.2
47°	1153.4	1191.4	1204.5	1193.7	1176.8	1139.9	1092.3	1041.2	989.8	948.3	928.3
47.5°	1114.6	1152.6	1166.8	1156.8	1137.6	1101.1	1055.4	1006.3	954.8	912.2	892.6
48°	1075.8	1114.6	1130.0	1119.2	1100.0	1062.4	1018.2	970.6	920.2	877.6	856.5
48.5°	1037.0	1076.6	1091.9	1081.2	1062.4	1023.6	982.5	936.0	885.7	843.8	821.2
49°	1000.5	1038.9	1055.1	1043.2	1024.7	986.3	945.6	900.3	850.7	808.9	786.2
49.5°	962.5	1001.3	1017.8	1005.5	987.1	949.1	909.5	865.3	816.9	775.1	752.0
50°	925.6	963.3	980.2	967.5	950.2	911.8	873.4	830.0	783.1	741.7	717.5
50.5°	888.4	924.9	942.9	930.2	914.5	874.2	837.7	795.4	750.1	709.0	684.4
51°	852.6	888.0	904.5	892.2	878.0	838.1	802.0	761.2	716.3	675.6	651.8
51.5°	816.5	851.9	868.0	856.1	842.3	803.1	767.0	727.4	684.0	643.7	620.3
52°	782.0	815.4	831.1	820.0	806.9	767.4	732.4	694.0	652.2	612.2	588.8
52.5°	746.3	778.9	794.7	784.3	771.2	733.6	698.3	659.8	619.9	581.5	558.1
53°	712.5	743.2	758.2	748.6	736.7	698.6	663.7	627.2	588.4	550.0	528.1
53.5°	677.5	708.2	720.9	712.8	702.5	664.8	630.7	595.3	557.3	520.0	499.7
54°	644.9	673.7	684.8	677.5	668.7	631.4	598.0	563.4	526.6	490.5	470.9
54.5°	612.2	638.7	649.5	643.7	635.3	599.5	565.7	532.3	496.6	461.7	442.5
55°	579.6	606.1	615.3	609.9	603.0	567.7	534.6	501.2	467.8	433.2	415.6
55.5°	547.3	572.7	580.3	577.3	571.5	535.8	503.1	470.9	438.6	406.0	389.1
56°	516.6	540.0	546.9	544.6	538.9	505.1	472.4	441.7	410.6	379.1	364.5
56.5°	486.2	507.7	514.3	512.0	507.7	474.7	443.2	413.3	382.9	354.5	340.3
57°	455.5	477.0	482.0	481.2	477.0	445.5	414.0	384.5	357.6	329.9	316.1
57.5°	426.3	446.7	450.1	450.5	447.8	417.1	385.6	358.3	332.2	305.3	291.5
58°	397.9	416.3	419.4	420.9	418.3	389.1	359.9	332.6	306.9	280.8	267.3
58.5°	370.2	387.5	390.2	391.8	389.8	363.3	334.1	306.5	281.5	255.8	245.4
59°	343.4	359.5	361.4	363.0	363.7	338.0	308.4	280.4	256.2	233.9	224.3
59.5°	316.5	332.2	333.8	335.7	337.2	312.3	282.7	254.6	232.8	212.4	203.2
60°	291.1	305.3	307.3	309.2	311.1	286.5	257.3	231.2	210.5	191.7	184.0
60.5°	266.2	279.2	281.1	283.4	284.6	261.2	234.7	208.9	189.3	172.5	165.2
61°	242.0	254.6	256.2	257.7	258.5	238.1	211.6	187.8	168.6	153.6	147.9
61.5°	219.7	230.8	233.1	234.3	234.7	215.5	190.9	167.5	149.4	136.3	131.4
62°	197.0	208.2	210.9	211.2	212.0	194.3	170.9	147.9	131.0	119.8	115.6
62.5°	175.9	185.9	189.3	189.3	189.7	173.6	151.7	129.8	113.7	104.1	101.0
63°	156.3	165.2	168.6	168.2	169.0	153.6	133.3	113.3	96.8	89.9	87.6
63.5°	137.1	145.6	149.8	148.3	149.4	135.2	116.8	97.2	82.2	76.4	74.9
64°	119.8	129.0	131.4	130.6	131.0	117.5	101.0	83.0	68.7	64.5	64.1
64.5°	102.5	112.9	116.0	114.8	113.3	101.4	86.4	69.1	56.5	54.2	53.8
65°	85.6	96.4	100.6	99.1	97.2	86.4	73.0	57.2	48.4	46.5	46.5
65.5°	68.4	79.9	85.3	83.3	82.2	72.2	60.3	49.2	40.7	39.2	39.2
66°	51.1	63.8	69.9	67.6	68.4	59.5	51.5	40.7	32.6	31.9	32.3



TEST NUMBER: P776235
 CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	17.3	30.7	36.1	34.6	38.8	33.0	25.7	15.7	11.5	12.3	12.7
68°	14.2	22.7	26.9	26.1	30.0	24.2	16.9	11.5	7.3	8.4	8.4
68.5°	11.1	16.1	19.2	18.8	21.5	15.4	11.5	7.7	4.2	5.4	5.4
69°	8.1	13.4	13.1	13.1	12.7	10.4	7.7	5.0	2.7	3.5	3.5
69.5°	5.0	10.8	10.4	10.4	8.1	6.5	4.2	3.1	2.3	2.3	2.3
70°	2.3	8.1	7.7	7.7	5.0	3.5	2.7	2.3	2.3	2.3	2.3
70.5°	1.9	5.0	5.0	5.0	3.1	2.3	2.3	1.9	1.9	2.3	2.3
71°	1.9	2.3	2.7	2.7	2.3	2.3	1.9	1.9	1.9	1.9	2.3
71.5°	1.9	2.3	2.3	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9
72°	1.9	1.9	2.3	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9
72.5°	1.9	1.9	2.3	2.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9
73°	1.9	1.9	2.3	2.3	1.9	1.9	1.9	1.5	1.9	1.9	1.9
73.5°	1.5	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.5	1.9	1.9
74°	1.5	1.9	1.9	1.9	1.9	1.9	1.5	1.5	1.5	1.5	1.9
74.5°	1.5	1.9	1.9	1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5
75°	1.5	1.5	1.9	1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5
75.5°	1.5	1.5	1.9	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5
76°	1.5	1.5	1.5	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5
76.5°	1.2	1.5	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.5	1.5
77°	1.2	1.5	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.2	1.5
77.5°	1.2	1.2	1.5	1.5	1.5	1.2	1.2	1.2	1.2	1.2	1.2
78°	1.2	1.2	1.5	1.5	1.5	1.2	1.2	1.2	1.2	1.2	1.2
78.5°	1.2	1.2	1.5	1.5	1.2	1.2	1.2	1.2	1.2	1.2	1.2
79°	1.2	1.2	1.2	1.5	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: P776235
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-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	0.4	0.4



TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2664.3	2664.3	2664.3	2664.3	2664.3	2664.3
0.5°	2664.0	2662.0	2663.6	2664.7	2665.9	2665.5
1°	2662.4	2660.5	2662.8	2664.7	2666.6	2666.6
1.5°	2660.5	2658.6	2661.6	2664.7	2666.6	2667.4
2°	2658.6	2656.3	2659.7	2663.6	2666.3	2667.8
2.5°	2655.9	2653.6	2657.8	2662.0	2665.9	2667.8
3°	2652.8	2650.5	2654.7	2660.1	2665.1	2667.8
3.5°	2649.4	2647.1	2651.7	2657.8	2664.0	2667.8
4°	2645.1	2642.8	2648.2	2655.5	2662.4	2667.0
4.5°	2640.5	2638.6	2644.0	2652.4	2660.9	2666.3
5°	2635.5	2633.6	2639.8	2649.0	2659.3	2665.5
5.5°	2630.2	2628.2	2635.1	2645.5	2657.4	2664.0
6°	2624.4	2622.9	2630.2	2641.7	2655.1	2662.4
6.5°	2618.6	2617.1	2625.2	2637.8	2652.4	2661.3
7°	2612.5	2611.3	2620.2	2634.0	2650.1	2659.3
7.5°	2606.3	2605.2	2614.4	2629.8	2647.1	2657.8
8°	2600.2	2599.0	2609.0	2625.5	2644.4	2655.5
8.5°	2593.7	2592.9	2603.3	2621.3	2640.9	2652.8
9°	2587.1	2586.4	2597.5	2616.7	2637.1	2650.1
9.5°	2580.6	2579.5	2591.4	2611.7	2632.8	2647.1
10°	2574.1	2572.5	2584.8	2606.7	2628.6	2644.0
10.5°	2567.2	2565.6	2578.7	2601.7	2624.0	2640.1
11°	2560.3	2558.3	2572.2	2596.7	2619.0	2636.3
11.5°	2553.0	2550.3	2564.9	2591.4	2614.0	2632.1
12°	2545.7	2542.6	2557.9	2586.0	2609.0	2628.2
12.5°	2538.0	2533.7	2550.3	2579.8	2603.3	2623.6
13°	2529.9	2524.9	2542.2	2574.1	2597.1	2619.0
13.5°	2521.8	2514.9	2534.1	2567.2	2591.0	2613.6
14°	2512.6	2504.6	2524.9	2559.9	2584.1	2608.3
14.5°	2503.0	2493.8	2514.9	2552.2	2576.8	2602.9
15°	2493.0	2482.3	2504.6	2543.4	2569.1	2596.4
15.5°	2481.9	2470.0	2493.4	2534.1	2560.3	2589.8
16°	2470.4	2456.9	2481.5	2524.5	2551.4	2582.9
16.5°	2458.1	2443.5	2468.8	2514.2	2541.4	2575.2
17°	2445.4	2429.3	2455.8	2503.0	2531.8	2567.2
17.5°	2432.4	2414.7	2442.0	2491.1	2521.5	2558.7
18°	2418.1	2399.3	2427.7	2479.2	2510.7	2550.6
18.5°	2403.5	2383.6	2413.5	2466.2	2499.6	2541.8
19°	2388.2	2367.4	2397.8	2452.7	2488.4	2533.0
19.5°	2372.1	2350.2	2381.7	2438.5	2476.5	2523.4
20°	2355.2	2332.1	2364.8	2423.5	2464.2	2512.6
20.5°	2337.5	2314.1	2347.5	2408.2	2450.8	2501.9
21°	2319.4	2294.9	2329.4	2391.6	2436.6	2490.0

TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2261.1	2236.1	2272.2	2339.0	2392.0	2450.4
23°	2240.7	2215.4	2251.8	2319.8	2375.9	2435.8
23.5°	2220.0	2195.0	2232.3	2300.6	2359.8	2419.7
24°	2199.2	2174.6	2211.9	2281.4	2342.5	2403.2
24.5°	2177.7	2153.9	2191.5	2261.4	2324.8	2385.9
25°	2156.6	2133.2	2171.2	2241.1	2306.8	2367.4
25.5°	2135.5	2112.4	2151.2	2221.5	2289.5	2349.4
26°	2113.6	2092.1	2130.1	2201.5	2271.0	2330.6
26.5°	2091.7	2070.9	2109.7	2181.6	2252.2	2311.4
27°	2070.2	2050.2	2089.0	2160.8	2233.4	2291.4
27.5°	2049.0	2029.5	2068.6	2140.5	2214.2	2270.7
28°	2027.9	2009.5	2047.5	2119.7	2194.2	2249.9
28.5°	2007.2	1989.5	2027.9	2099.4	2174.6	2228.8
29°	1986.1	1968.8	2007.9	2079.0	2154.3	2207.7
29.5°	1965.7	1949.6	1988.0	2059.4	2134.3	2186.9
30°	1946.1	1930.8	1968.0	2039.4	2114.3	2165.4
30.5°	1926.9	1911.5	1949.2	2019.9	2095.1	2144.7
31°	1907.3	1892.7	1930.4	2000.3	2075.9	2123.9
31.5°	1887.3	1873.1	1910.8	1981.4	2056.0	2104.0
32°	1868.1	1854.3	1891.6	1961.1	2036.0	2082.5
32.5°	1848.6	1835.1	1872.4	1941.9	2016.4	2062.9
33°	1827.4	1814.8	1852.4	1921.9	1996.4	2041.7
33.5°	1805.9	1794.4	1831.7	1900.4	1974.9	2019.5
34°	1784.4	1772.9	1810.9	1878.5	1951.9	1995.3
34.5°	1762.5	1751.8	1789.0	1856.2	1927.7	1971.1
35°	1739.5	1730.3	1767.1	1833.2	1903.5	1946.5
35.5°	1716.8	1708.4	1745.2	1810.2	1878.5	1921.1
36°	1692.2	1684.9	1723.0	1786.0	1853.2	1895.8
36.5°	1667.3	1661.1	1699.5	1762.1	1826.7	1870.1
37°	1640.4	1636.5	1674.6	1736.4	1799.4	1842.4
37.5°	1614.3	1611.6	1649.6	1709.1	1771.0	1815.1
38°	1585.9	1584.7	1623.5	1681.9	1742.2	1786.0
38.5°	1554.7	1555.9	1595.5	1653.8	1713.4	1757.1
39°	1522.5	1525.6	1565.5	1623.5	1683.4	1729.1
39.5°	1489.8	1493.3	1533.6	1591.2	1653.1	1698.8
40°	1454.1	1459.5	1500.6	1557.8	1621.2	1668.4
40.5°	1418.4	1424.5	1467.2	1524.4	1588.5	1636.2
41°	1381.9	1388.8	1433.0	1490.2	1554.0	1605.4
41.5°	1345.8	1352.3	1397.7	1456.0	1518.6	1572.0
42°	1308.5	1317.8	1363.5	1421.1	1484.8	1538.2
42.5°	1271.3	1281.3	1328.1	1385.4	1449.5	1501.7
43°	1234.0	1245.9	1293.2	1349.6	1413.8	1466.8
43.5°	1197.9	1208.3	1257.5	1313.5	1376.1	1429.1

TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1084.2	1101.1	1150.7	1203.7	1264.4	1312.0
45.5°	1048.5	1064.7	1115.4	1167.2	1226.4	1272.4
46°	1010.9	1029.3	1080.4	1130.7	1187.9	1232.9
46.5°	974.4	993.6	1044.3	1092.7	1148.8	1192.6
47°	938.3	958.3	1009.0	1056.2	1110.4	1153.4
47.5°	903.3	921.8	972.9	1019.3	1072.0	1114.6
48°	867.6	887.2	937.1	982.9	1033.5	1075.8
48.5°	833.1	851.9	901.0	945.6	994.8	1037.0
49°	798.1	817.7	865.7	910.6	957.5	1000.5
49.5°	765.8	783.5	830.4	873.8	919.9	962.5
50°	730.9	749.3	795.4	837.7	882.6	925.6
50.5°	697.9	715.1	759.7	802.0	845.0	888.4
51°	664.8	682.1	725.9	767.0	808.9	852.6
51.5°	632.6	649.5	691.7	731.7	773.1	816.5
52°	601.5	617.6	658.3	697.9	738.6	782.0
52.5°	570.0	586.1	624.5	663.3	703.2	746.3
53°	539.2	554.2	592.2	629.5	669.4	712.5
53.5°	509.3	523.5	560.0	595.3	636.0	677.5
54°	480.1	493.5	528.1	563.1	603.0	644.9
54.5°	450.9	464.3	497.4	531.6	571.1	612.2
55°	423.3	435.5	467.0	499.3	539.2	579.6
55.5°	396.0	406.7	436.7	467.8	508.5	547.3
56°	369.5	379.5	407.5	438.6	478.2	516.6
56.5°	344.5	352.6	379.1	409.4	449.0	486.2
57°	319.9	326.5	351.4	380.6	420.2	455.5
57.5°	295.4	300.3	323.8	352.6	391.4	426.3
58°	270.8	276.5	298.8	325.7	364.5	397.9
58.5°	248.1	252.3	273.1	300.0	338.8	370.2
59°	226.2	229.3	248.9	275.0	313.0	343.4
59.5°	205.1	207.4	225.5	251.2	288.4	316.5
60°	185.1	185.9	203.2	227.4	264.6	291.1
60.5°	166.3	165.9	182.1	206.2	240.8	266.2
61°	147.9	146.3	161.7	185.1	218.2	242.0
61.5°	131.0	130.2	142.5	165.5	197.0	219.7
62°	114.8	114.8	127.5	146.3	176.3	197.0
62.5°	99.9	99.5	112.2	130.6	156.3	175.9
63°	86.4	84.1	97.2	115.6	137.9	156.3
63.5°	73.7	68.4	81.8	100.6	122.5	137.1
64°	62.6	56.8	66.8	85.6	107.5	119.8
64.5°	52.6	47.2	55.3	70.7	92.6	102.5
65°	45.7	38.4	45.3	59.1	77.2	85.6
65.5°	38.4	31.1	36.5	48.4	62.2	68.4
66°	31.1	24.6	28.8	38.8	50.3	51.1



TEST NUMBER: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	12.3	11.5	12.7	17.3	22.7	17.3
68°	8.4	8.8	10.0	12.3	16.1	14.2
68.5°	5.4	6.1	7.3	9.6	13.1	11.1
69°	3.5	3.1	5.0	6.9	10.4	8.1
69.5°	2.3	2.3	2.3	4.6	7.7	5.0
70°	2.3	1.9	1.9	1.9	4.6	2.3
70.5°	2.3	1.9	1.9	1.9	1.9	1.9
71°	1.9	1.9	1.9	1.9	1.9	1.9
71.5°	1.9	1.9	1.9	1.9	1.9	1.9
72°	1.9	1.9	1.5	1.5	1.9	1.9
72.5°	1.9	1.9	1.5	1.5	1.5	1.9
73°	1.9	1.5	1.5	1.5	1.5	1.9
73.5°	1.9	1.5	1.5	1.5	1.5	1.5
74°	1.5	1.5	1.5	1.5	1.5	1.5
74.5°	1.5	1.5	1.5	1.5	1.5	1.5
75°	1.5	1.5	1.5	1.5	1.5	1.5
75.5°	1.5	1.5	1.2	1.2	1.2	1.5
76°	1.5	1.5	1.2	1.2	1.2	1.5
76.5°	1.5	1.2	1.2	1.2	1.2	1.2
77°	1.5	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: P776235

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-2700K

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°	2477.3	2471.1	2485.4	2466.5	2478.8	2430.0	2388.6	2333.6	2278.7	2295.6	2306.0
22°	2464.6	2457.7	2470.8	2453.5	2466.5	2415.8	2372.8	2314.8	2259.5	2276.4	2290.6



44°	1390.7	1414.2	1425.7	1414.9	1412.6	1368.1	1312.8	1252.5	1201.0	1164.9	1149.2
44.5°	1349.6	1377.7	1389.2	1379.2	1372.3	1330.8	1276.7	1217.5	1166.1	1127.6	1112.3



66.5°	38.0	51.1	57.2	55.3	56.1	50.7	43.0	32.3	24.6	24.2	25.0
67°	26.1	40.3	46.1	44.2	47.2	41.9	34.2	24.2	16.9	16.9	17.7



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°	2300.6	2276.0	2311.0	2374.4	2422.4	2477.3
22°	2280.6	2255.7	2291.8	2357.1	2407.4	2464.6



44°	1158.4	1172.6	1221.4	1277.4	1339.3	1390.7
44.5°	1121.1	1136.5	1186.0	1240.6	1302.4	1349.6



66.5°	23.8	19.2	22.3	30.7	39.6	38.0
67°	16.9	14.6	16.9	23.4	30.3	26.1

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)