

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: P776472

Luminaire Tested: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776472  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B068)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K  
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4424.2 lumens  
Efficiency: N/A  
Efficacy: 114.9 lumens/watt  
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.14  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

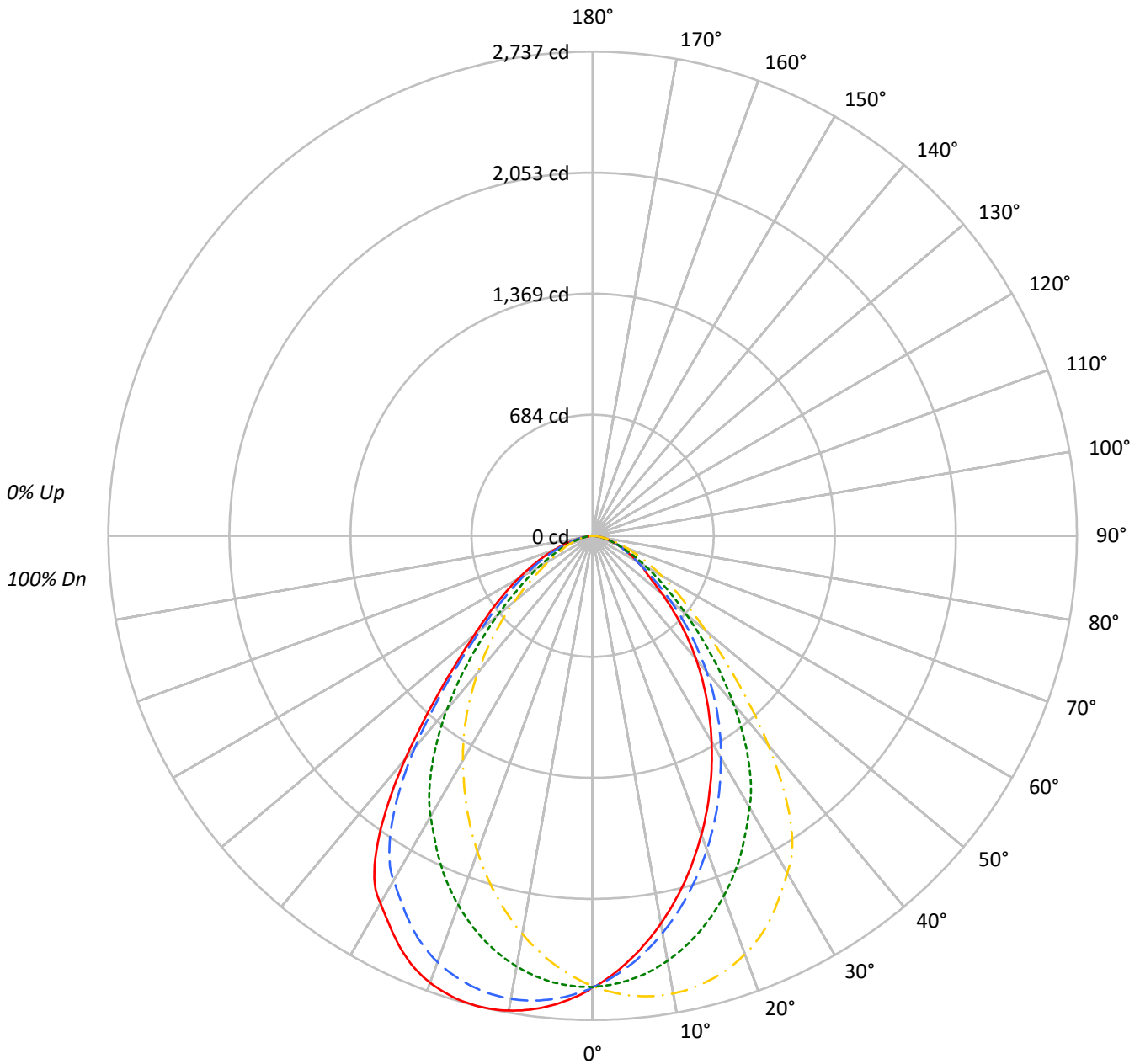
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	109	105	102	99	101	99	96	97	95	93	94	92	91	89																			
2	103	96	91	86	101	95	90	85	91	87	83	88	85	82	85	82	80	78																			
3	96	87	80	75	93	85	79	74	83	77	73	80	75	72	78	74	71	69																			
4	89	79	71	66	87	77	71	65	75	69	64	73	68	64	71	66	63	61																			
5	83	72	64	58	81	71	63	58	69	62	57	67	61	57	65	60	56	54																			
6	77	66	58	52	75	65	57	52	63	56	52	61	56	51	60	55	51	49																			
7	72	60	52	47	71	59	52	47	58	51	47	57	51	46	55	50	46	44																			
8	68	56	48	43	66	55	48	43	54	47	42	52	47	42	51	46	42	40																			
9	64	51	44	39	62	51	44	39	50	43	39	49	43	39	48	42	39	37																			
10	60	48	41	36	59	47	41	36	46	40	36	46	40	36	45	39	35	34																			

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

	0°	90°	180°	270°
0°	77904	77904	77904	77904
5°	73770	77132	81674	77665
10°	68981	75621	84491	76644
15°	63821	73354	86417	74786
20°	58439	70418	87332	72150
25°	52918	66787	86588	68663
30°	47395	62582	84576	64584
35°	41814	57084	78947	58951
40°	36224	49336	65632	51046
45°	30336	40715	51527	42054
50°	24480	32749	41526	33466
55°	20072	26422	35029	26587
60°	17885	21377	29724	21426
65°	15445	17280	24865	17193
70°	13372	13800	20076	13693
75°	11489	10970	15288	10829
80°	9494	8808	9846	8457
85°	6691	6691	2907	6130

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 180°  
 Vertical Angle: 45°  
 Luminance: 51527 cd/sqm



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	239.4	5.4
10°-20°	663.3	15.0
20°-30°	937.2	21.2
30°-40°	985.2	22.3
40°-50°	742.8	16.8
50°-60°	460.4	10.4
60°-70°	258.9	5.9
70°-80°	114.3	2.6
80°-90°	22.6	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°	1839.9	41.6
0°-40°	2825.1	63.9
0°-60°	4028.3	91.1
0°-90°	4424.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4424.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2552	2552	2552	2552	2552	
5°	2407	2517	2665	2534	2407	224
15°	2019	2321	2734	2366	2019	565
25°	1571	1983	2570	2038	1571	721
35°	1122	1532	2118	1582	1122	700
45°	703	943	1193	974	703	542
55°	377	496	658	500	377	346
65°	214	239	344	238	214	214
75°	97	93	130	92	97	104
85°	19	19	8	18	19	24
90°	0	0	0	0	0	



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7
0.5°	2543.4	2544.6	2544.2	2544.2	2548.2	2550.9	2553.7	2566.8	2569.6	2569.6	2564.1
1°	2529.9	2531.9	2533.8	2537.8	2546.6	2554.5	2561.7	2578.0	2581.5	2581.1	2572.8
1.5°	2516.0	2518.4	2523.1	2531.1	2544.6	2557.7	2569.6	2588.7	2593.9	2592.7	2581.9
2°	2501.3	2504.4	2511.6	2523.5	2542.2	2560.5	2576.8	2598.6	2605.4	2603.4	2589.9
2.5°	2486.6	2490.1	2500.1	2515.6	2539.0	2562.5	2583.1	2608.2	2616.1	2613.7	2598.2
3°	2471.5	2475.8	2487.4	2507.6	2535.4	2564.1	2589.5	2616.9	2627.2	2623.7	2605.0
3.5°	2456.0	2461.1	2475.4	2498.9	2531.9	2565.2	2595.4	2626.0	2637.2	2633.2	2611.7
4°	2440.1	2445.6	2462.3	2490.1	2527.1	2566.0	2600.6	2634.0	2646.7	2642.3	2618.1
4.5°	2423.8	2429.7	2448.8	2480.6	2522.3	2566.4	2605.8	2641.9	2655.9	2650.7	2624.5
5°	2407.1	2414.2	2434.9	2470.7	2516.8	2566.0	2609.8	2649.1	2665.0	2659.0	2629.6
5.5°	2390.4	2397.9	2421.4	2460.3	2511.2	2565.6	2613.7	2655.9	2673.3	2666.6	2634.8
6°	2373.3	2380.8	2406.7	2449.2	2504.8	2564.1	2617.3	2662.2	2680.9	2673.7	2639.2
6.5°	2355.8	2363.8	2392.0	2438.1	2498.1	2562.5	2620.1	2667.8	2688.0	2680.5	2643.5
7°	2337.5	2346.7	2376.5	2426.6	2491.3	2560.5	2622.5	2673.3	2695.2	2686.5	2646.7
7.5°	2320.0	2329.6	2361.4	2414.6	2483.4	2558.1	2624.5	2678.1	2701.6	2692.4	2649.9
8°	2301.4	2311.3	2345.5	2402.3	2475.4	2554.5	2626.0	2682.5	2707.5	2697.6	2652.3
8.5°	2282.7	2293.4	2329.6	2389.6	2467.1	2551.3	2626.8	2686.1	2712.7	2702.3	2654.3
9°	2263.2	2274.7	2312.5	2376.5	2457.9	2547.4	2627.2	2689.6	2717.5	2706.3	2656.2
9.5°	2244.5	2256.1	2296.2	2363.0	2448.8	2543.0	2627.2	2692.4	2721.8	2709.9	2657.0
10°	2225.1	2237.0	2279.1	2348.7	2439.3	2537.8	2626.8	2694.4	2725.4	2713.1	2657.8
10.5°	2205.2	2217.9	2261.6	2335.1	2428.9	2532.3	2626.0	2696.4	2728.6	2715.9	2657.8
11°	2185.3	2198.4	2243.7	2320.4	2418.2	2526.7	2624.5	2697.6	2731.4	2717.8	2657.4
11.5°	2165.5	2179.0	2226.3	2305.3	2407.5	2520.3	2622.9	2698.4	2733.7	2719.8	2656.2
12°	2145.2	2158.7	2208.0	2289.8	2396.3	2514.0	2620.5	2698.4	2735.3	2720.6	2655.1
12.5°	2124.1	2138.8	2189.3	2274.7	2384.4	2506.8	2617.3	2698.4	2736.5	2721.4	2653.1
13°	2103.1	2118.2	2170.6	2258.4	2372.5	2499.3	2614.1	2697.6	2737.3	2721.4	2650.7
13.5°	2082.8	2097.5	2151.9	2242.9	2360.6	2491.3	2610.2	2696.4	2737.3	2721.0	2647.9
14°	2061.7	2077.2	2132.9	2226.3	2347.1	2483.0	2605.8	2694.4	2736.9	2719.8	2644.3
14.5°	2040.3	2056.2	2113.4	2209.6	2334.0	2473.8	2601.0	2692.4	2735.7	2718.2	2640.4
15°	2019.2	2035.5	2093.5	2192.5	2320.8	2464.7	2595.8	2689.2	2734.1	2716.3	2636.0
15.5°	1997.0	2014.0	2073.7	2175.0	2306.9	2454.8	2589.9	2686.1	2732.2	2713.9	2631.2
16°	1975.5	1992.6	2053.8	2157.5	2292.6	2444.8	2583.9	2682.1	2729.4	2710.7	2625.6
16.5°	1953.6	1971.1	2033.9	2140.0	2277.9	2434.1	2577.2	2677.7	2726.6	2707.1	2619.7
17°	1931.8	1950.1	2014.0	2121.7	2263.2	2423.4	2570.0	2672.9	2722.6	2702.7	2613.3
17.5°	1909.5	1928.2	1993.0	2103.9	2248.1	2412.2	2562.5	2667.4	2718.2	2698.0	2606.2
18°	1887.3	1906.3	1972.7	2084.8	2232.6	2400.3	2554.5	2661.4	2713.5	2692.4	2599.0
18.5°	1865.0	1884.1	1951.7	2066.5	2216.3	2388.4	2545.8	2654.7	2707.9	2686.5	2591.1
19°	1843.2	1862.2	1931.0	2047.4	2200.4	2375.7	2536.6	2647.5	2702.0	2680.1	2582.3
19.5°	1820.1	1840.0	1909.9	2028.4	2184.1	2363.0	2527.1	2640.0	2695.6	2672.9	2573.2
20°	1798.7	1818.1	1888.5	2009.3	2167.4	2349.5	2517.2	2631.6	2688.0	2664.6	2563.7
20.5°	1775.6	1796.3	1867.4	1989.4	2150.0	2335.9	2506.8	2622.9	2680.1	2656.2	2553.7
21°	1753.3	1774.0	1845.9	1969.5	2132.9	2321.6	2495.3	2613.3	2671.4	2647.5	2542.6



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1685.0	1706.5	1781.2	1909.5	2079.2	2276.3	2459.1	2580.3	2640.4	2615.3	2506.0
23°	1662.3	1684.2	1759.3	1888.9	2060.5	2260.4	2445.6	2567.6	2628.4	2603.0	2492.5
23.5°	1639.7	1661.1	1737.1	1868.2	2041.5	2244.1	2431.3	2554.5	2615.3	2589.9	2478.2
24°	1617.0	1638.9	1716.0	1847.5	2022.4	2227.1	2416.6	2539.4	2601.4	2575.2	2462.7
24.5°	1594.0	1616.2	1693.3	1826.5	2002.9	2209.2	2400.7	2523.9	2586.3	2560.1	2446.4
25°	1570.9	1593.6	1671.5	1805.0	1982.6	2190.9	2384.0	2507.6	2570.4	2543.8	2429.3
25.5°	1548.3	1570.5	1649.2	1783.6	1961.6	2171.4	2366.5	2491.3	2554.1	2527.9	2411.8
26°	1525.6	1548.7	1627.0	1762.1	1941.3	2151.9	2348.7	2473.4	2537.4	2510.0	2393.6
26.5°	1503.0	1526.0	1604.7	1740.6	1919.9	2131.7	2330.0	2455.6	2520.3	2492.9	2375.7
27°	1480.7	1503.4	1582.9	1718.8	1898.4	2112.2	2311.7	2438.1	2502.9	2475.8	2357.0
27.5°	1457.7	1480.7	1560.6	1696.5	1877.7	2092.3	2293.0	2421.0	2485.4	2457.9	2338.7
28°	1434.6	1458.5	1538.0	1674.7	1856.7	2072.5	2274.7	2402.7	2467.5	2440.1	2320.4
28.5°	1411.6	1435.4	1515.7	1652.8	1836.0	2052.2	2255.3	2385.2	2450.4	2423.0	2302.6
29°	1389.3	1413.2	1494.2	1631.3	1815.3	2032.7	2237.0	2367.3	2432.5	2405.1	2283.9
29.5°	1367.1	1390.5	1472.0	1609.9	1795.1	2013.2	2218.3	2350.2	2415.4	2387.6	2266.0
30°	1344.4	1368.3	1449.7	1589.2	1775.2	1994.2	2200.4	2333.6	2399.1	2371.3	2249.3
30.5°	1321.4	1346.0	1427.9	1567.8	1754.5	1975.1	2182.9	2317.7	2383.6	2355.8	2232.6
31°	1299.1	1323.8	1406.8	1547.1	1734.3	1956.4	2166.3	2300.2	2366.5	2337.9	2213.5
31.5°	1276.9	1301.5	1385.4	1525.2	1712.0	1935.0	2146.4	2278.7	2346.3	2317.3	2191.7
32°	1254.6	1279.6	1363.5	1503.8	1689.0	1912.3	2124.1	2254.1	2322.4	2293.0	2166.3
32.5°	1231.6	1257.0	1342.0	1480.7	1664.3	1886.5	2099.1	2227.8	2295.4	2265.6	2139.2
33°	1209.7	1235.5	1319.8	1458.5	1639.3	1860.2	2072.1	2197.2	2264.8	2235.4	2110.2
33.5°	1188.2	1214.1	1298.3	1434.6	1612.7	1831.6	2042.3	2165.1	2231.8	2202.8	2078.4
34°	1166.0	1192.2	1275.7	1410.0	1586.0	1802.6	2011.3	2129.3	2196.1	2168.2	2045.8
34.5°	1144.1	1170.8	1253.0	1385.7	1559.0	1772.4	1977.9	2092.7	2158.3	2131.3	2011.7
35°	1121.9	1148.9	1230.4	1361.5	1531.6	1740.6	1943.7	2052.6	2118.2	2091.5	1976.7
35.5°	1100.0	1127.0	1207.7	1336.5	1503.0	1709.2	1907.1	2011.7	2075.6	2051.8	1939.7
36°	1079.0	1105.2	1185.1	1311.4	1474.8	1677.0	1870.6	1968.7	2031.5	2009.3	1900.8
36.5°	1057.1	1083.7	1162.4	1286.0	1445.4	1643.7	1833.2	1925.8	1986.2	1965.2	1861.0
37°	1036.0	1062.3	1139.8	1261.4	1416.3	1609.5	1792.7	1879.7	1939.7	1919.9	1820.9
37.5°	1014.2	1040.4	1116.3	1235.9	1386.9	1575.7	1753.0	1833.6	1892.4	1873.0	1779.2
38°	993.1	1018.9	1093.7	1210.1	1356.7	1540.7	1711.2	1787.5	1844.4	1826.1	1737.1
38.5°	971.7	996.7	1070.6	1183.9	1327.3	1506.6	1669.9	1743.0	1795.9	1778.8	1693.7
39°	950.6	975.6	1047.6	1158.4	1298.7	1471.2	1628.6	1694.5	1745.8	1730.7	1650.4
39.5°	929.9	954.2	1024.9	1133.0	1268.5	1435.4	1586.4	1648.0	1696.1	1681.4	1606.7
40°	908.9	932.7	1001.1	1107.2	1237.9	1399.7	1544.3	1600.3	1646.8	1632.9	1562.6
40.5°	887.8	911.2	978.4	1080.5	1208.1	1364.3	1501.4	1555.0	1597.2	1584.8	1518.1
41°	867.1	890.2	955.4	1055.1	1177.9	1328.5	1460.1	1508.1	1549.5	1537.2	1474.4
41.5°	846.1	869.1	933.1	1029.7	1148.5	1292.4	1418.7	1461.7	1500.2	1489.5	1430.7
42°	825.0	848.1	910.5	1004.2	1118.3	1257.0	1377.8	1417.1	1453.7	1442.2	1387.7
42.5°	804.7	827.4	887.8	979.6	1088.5	1221.6	1337.7	1373.4	1407.2	1396.1	1345.2
43°	784.1	806.7	866.3	954.6	1059.1	1187.4	1297.1	1330.5	1361.9	1352.0	1303.1
43.5°	763.8	786.1	844.5	929.9	1029.3	1152.9	1257.8	1288.4	1317.4	1307.1	1261.4



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	702.6	725.3	779.7	856.8	943.0	1052.3	1145.3	1168.8	1193.4	1184.3	1144.5
45.5°	682.7	704.6	758.6	833.4	915.2	1020.5	1109.6	1131.8	1154.9	1144.9	1106.8
46°	663.3	685.1	737.6	810.3	887.8	989.5	1075.0	1095.6	1117.9	1108.4	1070.2
46.5°	644.2	666.0	717.7	787.3	861.2	958.1	1041.2	1060.3	1082.1	1072.2	1034.8
47°	624.7	646.2	696.6	763.4	834.5	927.5	1008.2	1027.7	1048.4	1038.0	1001.9
47.5°	605.6	627.9	676.4	742.0	808.7	898.5	976.4	995.9	1016.6	1005.4	969.3
48°	587.0	609.2	656.5	719.3	784.1	871.1	945.8	965.3	985.6	974.8	937.9
48.5°	568.7	590.9	636.6	697.4	760.2	843.3	916.8	935.9	955.4	944.2	907.3
49°	550.0	573.5	617.6	676.0	736.0	815.9	887.8	908.1	927.9	916.4	879.1
49.5°	533.3	556.0	598.1	655.3	712.1	790.8	860.8	880.6	900.5	887.8	850.4
50°	515.4	538.5	579.4	634.3	689.5	765.8	834.2	854.8	874.3	862.0	823.8
50.5°	498.3	522.2	560.7	613.6	667.6	741.2	807.9	829.4	848.9	836.1	798.0
51°	482.1	505.1	542.9	593.7	646.2	717.3	783.3	805.5	824.6	811.5	773.3
51.5°	466.6	489.2	525.0	574.6	625.5	694.7	759.8	782.1	801.6	788.5	749.5
52°	451.1	472.9	507.1	556.0	605.2	672.4	736.4	760.2	778.9	765.4	726.5
52.5°	436.3	457.8	490.4	537.3	585.8	651.7	714.1	738.0	757.5	743.1	703.8
53°	422.8	442.7	473.7	519.0	566.7	630.7	692.3	717.3	736.4	722.1	682.3
53.5°	409.7	428.0	457.4	501.5	548.4	610.4	671.6	697.0	716.1	701.4	661.3
54°	397.8	413.7	441.5	484.4	530.5	590.5	651.3	677.2	696.6	681.5	641.8
54.5°	387.1	400.2	426.0	468.5	513.4	572.3	631.5	658.1	677.2	662.1	622.3
55°	377.1	387.5	411.3	452.2	496.4	553.6	612.8	639.4	658.1	643.4	603.3
55.5°	368.0	374.8	397.0	437.1	480.1	535.7	594.5	621.1	639.8	625.1	585.0
56°	359.7	363.2	383.1	421.6	463.8	518.6	576.2	603.7	621.5	607.6	567.1
56.5°	353.3	352.1	370.0	407.3	448.3	501.5	558.8	586.2	603.7	589.4	549.6
57°	345.7	341.8	356.9	393.0	432.8	484.8	541.7	569.1	586.2	572.3	532.9
57.5°	337.0	332.2	344.5	379.1	418.1	468.9	525.0	552.8	569.1	556.0	516.6
58°	328.3	324.3	332.6	365.6	403.8	453.8	508.7	536.1	552.0	539.7	500.7
58.5°	319.5	316.3	321.1	352.9	389.9	438.7	493.2	519.8	534.9	523.0	484.4
59°	310.8	308.4	310.0	340.2	376.3	424.0	477.3	503.9	518.6	506.7	469.3
59.5°	301.6	300.0	299.6	327.9	363.2	409.7	462.2	488.0	502.3	490.8	454.2
60°	292.9	292.1	289.3	315.9	350.1	395.8	447.5	472.9	486.8	475.7	439.5
60.5°	284.1	283.7	279.8	304.4	338.2	382.7	432.4	457.8	470.9	460.2	425.2
61°	275.8	275.4	270.2	292.9	326.3	369.2	418.1	443.1	455.8	445.5	410.9
61.5°	267.5	267.5	261.1	282.2	313.9	356.1	404.2	428.4	440.7	431.2	397.4
62°	259.5	259.5	252.7	271.4	302.0	344.2	391.0	414.1	426.0	417.3	383.9
62.5°	251.2	251.6	244.4	261.1	291.3	331.8	377.5	399.8	411.7	402.2	370.8
63°	243.6	244.0	236.5	251.2	280.2	319.9	364.4	386.3	397.4	388.7	358.1
63.5°	235.7	236.5	228.9	241.6	269.4	308.0	351.7	373.2	383.5	375.1	345.7
64°	228.5	228.9	222.1	232.5	259.1	296.1	339.4	359.7	370.0	362.0	333.4
64.5°	221.0	221.8	215.4	223.7	248.8	284.9	327.1	347.3	356.9	349.3	321.5
65°	213.8	215.0	209.0	215.0	239.2	274.2	314.7	335.0	344.2	337.0	309.2
65.5°	207.0	207.8	202.7	206.7	229.7	263.5	302.8	322.7	331.4	324.7	296.9
66°	199.9	201.1	196.3	198.7	220.2	252.7	291.7	310.4	319.1	312.4	285.7





TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	180.0	181.6	177.6	176.1	193.9	223.3	258.7	274.6	281.4	276.2	252.7
68°	174.1	175.3	172.1	169.3	185.2	213.8	248.0	263.1	269.4	264.7	242.0
68.5°	167.7	168.9	166.1	162.5	177.2	204.7	237.3	252.4	258.3	253.9	232.1
69°	161.7	162.9	160.2	156.2	169.7	195.5	227.3	241.2	246.8	242.8	221.8
69.5°	155.4	157.0	154.6	149.8	162.1	187.2	217.4	230.9	236.1	232.1	212.2
70°	149.8	151.0	149.0	143.5	154.6	178.8	207.8	220.6	224.9	221.8	202.7
70.5°	143.9	145.4	143.1	137.9	147.8	170.5	198.3	210.6	214.6	212.2	193.5
71°	138.3	139.9	137.9	132.7	140.7	162.5	189.6	200.7	204.3	201.9	184.0
71.5°	133.1	134.7	133.1	127.6	134.3	154.6	180.4	191.5	194.3	192.3	175.3
72°	128.0	129.6	128.0	122.4	127.6	147.0	171.7	181.6	184.0	182.8	166.5
72.5°	122.4	124.0	123.2	116.8	121.2	139.9	162.9	172.9	174.5	173.3	157.8
73°	117.2	118.8	118.0	112.1	115.2	132.7	154.6	163.7	164.9	164.5	149.4
73.5°	112.1	113.7	112.9	107.3	109.3	125.6	146.2	155.0	155.8	155.8	141.9
74°	107.3	108.5	108.1	102.9	103.7	118.8	138.7	146.6	147.0	147.4	133.9
74.5°	102.1	103.7	103.3	98.2	98.2	112.5	130.7	138.7	137.9	139.1	126.0
75°	97.4	99.0	99.0	93.8	93.0	106.1	123.2	130.3	129.6	130.7	118.8
75.5°	92.6	94.2	94.2	89.8	88.2	100.1	116.0	122.8	121.2	123.2	111.7
76°	88.2	89.4	89.8	85.4	83.1	94.2	108.9	115.2	112.9	115.6	104.5
76.5°	83.5	85.0	85.4	81.5	78.7	88.2	102.1	107.7	104.9	108.1	97.8
77°	79.1	80.3	81.1	77.5	73.9	83.1	95.8	100.5	97.4	100.9	91.4
77.5°	74.7	75.9	76.7	73.5	69.5	77.5	89.0	93.8	89.8	94.2	85.0
78°	70.3	71.9	72.7	69.5	65.6	72.7	83.1	87.0	82.7	87.4	78.7
78.5°	66.4	67.6	68.4	66.0	61.2	67.6	77.1	80.7	75.5	80.7	73.1
79°	62.0	63.6	64.4	62.0	57.6	62.8	71.1	74.3	68.8	74.7	67.2
79.5°	58.0	59.6	60.4	58.4	53.6	58.4	65.6	68.4	62.4	68.4	62.0
80°	54.0	55.2	56.4	54.8	50.1	54.0	60.0	62.4	56.0	62.8	56.4
80.5°	50.5	51.3	52.9	51.3	46.5	49.7	55.2	56.4	50.1	56.8	51.3
81°	46.5	47.7	49.3	48.1	42.9	45.7	50.1	50.9	44.1	51.3	46.5
81.5°	42.9	44.1	45.7	44.5	39.7	41.7	45.3	45.3	38.9	46.1	41.7
82°	39.3	40.1	42.1	41.3	36.6	37.8	40.9	40.5	33.8	41.3	37.8
82.5°	35.8	36.6	38.5	37.8	33.4	34.6	37.0	35.8	29.0	36.6	33.8
83°	32.2	33.4	35.4	34.6	30.6	31.4	33.0	31.0	23.8	31.8	29.4
83.5°	28.6	29.8	31.8	31.8	27.8	27.8	29.0	26.2	18.7	27.0	25.4
84°	25.4	26.2	28.6	28.6	24.6	24.6	25.0	21.5	14.7	22.3	21.5
84.5°	22.3	23.0	25.4	25.4	21.9	21.5	21.1	17.1	11.1	17.5	18.3
85°	19.1	19.9	22.3	22.7	19.1	18.7	17.9	13.5	8.3	13.5	15.1
85.5°	15.9	16.3	19.5	19.5	16.3	15.9	15.1	10.7	6.4	10.7	12.3
86°	13.5	14.3	16.7	16.7	13.9	13.1	12.3	7.9	5.2	7.9	9.5
86.5°	11.1	11.9	13.9	14.3	11.5	10.7	9.5	5.6	4.0	5.6	7.2
87°	8.7	9.5	11.5	11.5	9.1	8.3	7.2	3.6	2.8	3.6	5.2
87.5°	6.4	7.2	9.1	9.1	6.8	6.0	5.2	2.0	2.0	2.0	3.2
88°	4.4	5.2	6.8	6.4	4.8	4.0	3.2	0.8	0.8	0.8	1.6
88.5°	2.8	3.2	4.0	4.0	2.4	2.0	1.6	0.4	0.4	0.4	0.4



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2551.7	2551.7	2551.7	2551.7	2551.7	2551.7
0.5°	2555.7	2550.1	2542.6	2535.8	2543.8	2543.4
1°	2560.5	2550.1	2537.4	2526.7	2531.5	2529.9
1.5°	2564.8	2550.1	2531.9	2516.8	2518.7	2516.0
2°	2569.2	2549.0	2525.9	2506.0	2505.6	2501.3
2.5°	2572.8	2547.8	2519.1	2494.9	2492.1	2486.6
3°	2576.0	2545.8	2512.4	2484.2	2478.2	2471.5
3.5°	2578.4	2543.4	2504.8	2472.6	2464.3	2456.0
4°	2580.7	2541.0	2497.3	2460.7	2449.6	2440.1
4.5°	2582.3	2537.8	2488.9	2448.0	2434.5	2423.8
5°	2583.1	2534.2	2480.6	2434.9	2419.4	2407.1
5.5°	2583.9	2530.3	2471.1	2421.8	2403.5	2390.4
6°	2584.3	2525.5	2461.9	2408.3	2387.6	2373.3
6.5°	2583.9	2520.3	2452.0	2394.0	2371.3	2355.8
7°	2583.1	2515.2	2441.3	2380.1	2354.2	2337.5
7.5°	2581.9	2508.8	2430.5	2364.6	2337.5	2320.0
8°	2580.3	2502.5	2419.4	2349.9	2320.0	2301.4
8.5°	2578.4	2495.7	2407.5	2334.0	2302.6	2282.7
9°	2575.6	2488.1	2395.2	2318.5	2284.3	2263.2
9.5°	2572.4	2480.2	2382.4	2301.8	2266.0	2244.5
10°	2568.8	2472.3	2369.7	2285.9	2247.7	2225.1
10.5°	2564.8	2463.5	2356.6	2268.8	2229.0	2205.2
11°	2560.1	2454.0	2343.1	2252.1	2210.0	2185.3
11.5°	2555.3	2444.4	2328.8	2234.2	2190.5	2165.5
12°	2549.3	2434.5	2314.5	2216.7	2171.0	2145.2
12.5°	2543.8	2424.2	2299.8	2198.8	2151.1	2124.1
13°	2537.0	2413.4	2285.1	2180.6	2131.3	2103.1
13.5°	2530.3	2402.3	2269.6	2162.3	2111.4	2082.8
14°	2522.7	2390.8	2253.7	2143.2	2090.7	2061.7
14.5°	2515.2	2378.9	2237.4	2124.1	2070.5	2040.3
15°	2506.8	2366.1	2221.5	2105.4	2049.4	2019.2
15.5°	2498.1	2353.4	2204.4	2085.2	2028.4	1997.0
16°	2488.9	2339.9	2187.7	2065.7	2007.3	1975.5
16.5°	2479.4	2326.8	2170.6	2045.4	1985.8	1953.6
17°	2469.1	2312.5	2152.7	2026.0	1964.8	1931.8
17.5°	2458.7	2298.2	2135.3	2006.1	1943.3	1909.5
18°	2447.6	2283.5	2117.0	1985.0	1921.8	1887.3
18.5°	2436.5	2268.4	2098.7	1964.4	1900.0	1865.0
19°	2424.2	2252.9	2080.0	1944.1	1877.7	1843.2
19.5°	2411.8	2237.4	2061.3	1923.4	1855.9	1820.1
20°	2399.1	2220.7	2042.3	1902.4	1834.0	1798.7
20.5°	2385.6	2204.8	2023.2	1880.9	1812.2	1775.6
21°	2372.1	2187.7	2003.3	1859.9	1789.9	1753.3

TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2328.0	2135.3	1943.7	1795.5	1723.1	1685.0
23°	2312.1	2116.6	1923.0	1773.6	1700.1	1662.3
23.5°	2295.0	2097.9	1902.4	1752.2	1678.2	1639.7
24°	2277.9	2078.8	1881.3	1729.5	1656.0	1617.0
24.5°	2259.6	2059.0	1860.2	1708.4	1632.9	1594.0
25°	2240.6	2038.3	1838.8	1685.8	1610.3	1570.9
25.5°	2221.5	2018.0	1817.3	1663.5	1588.0	1548.3
26°	2201.6	1997.4	1795.5	1641.7	1565.4	1525.6
26.5°	2182.1	1975.9	1773.6	1619.8	1542.7	1503.0
27°	2162.7	1954.4	1751.4	1597.2	1520.5	1480.7
27.5°	2142.8	1933.8	1729.5	1574.5	1497.4	1457.7
28°	2122.9	1913.1	1707.6	1552.3	1475.2	1434.6
28.5°	2103.5	1892.0	1686.6	1530.8	1452.1	1411.6
29°	2084.4	1871.8	1665.1	1508.5	1430.3	1389.3
29.5°	2065.7	1851.9	1644.5	1487.1	1407.6	1367.1
30°	2047.4	1832.0	1623.4	1464.8	1385.4	1344.4
30.5°	2028.4	1812.2	1601.9	1443.4	1363.1	1321.4
31°	2006.9	1790.7	1580.1	1421.9	1341.2	1299.1
31.5°	1984.2	1768.4	1558.6	1400.1	1319.0	1276.9
32°	1958.8	1743.8	1535.6	1378.2	1296.7	1254.6
32.5°	1931.8	1718.4	1512.1	1355.9	1274.5	1231.6
33°	1903.2	1692.9	1488.3	1333.7	1253.0	1209.7
33.5°	1873.8	1665.5	1464.0	1311.4	1231.2	1188.2
34°	1843.2	1638.1	1439.0	1288.8	1209.3	1166.0
34.5°	1812.2	1610.3	1413.6	1265.7	1187.4	1144.1
35°	1780.4	1581.7	1388.1	1242.7	1166.0	1121.9
35.5°	1747.4	1553.1	1362.7	1219.2	1143.7	1100.0
36°	1714.0	1523.6	1336.9	1196.6	1122.3	1079.0
36.5°	1679.4	1494.6	1311.0	1173.1	1100.4	1057.1
37°	1644.5	1464.4	1284.4	1149.3	1078.6	1036.0
37.5°	1609.1	1434.6	1258.6	1125.8	1056.7	1014.2
38°	1573.3	1403.6	1232.0	1102.4	1034.8	993.1
38.5°	1537.6	1373.4	1205.7	1079.0	1013.0	971.7
39°	1501.4	1342.4	1179.9	1055.9	991.1	950.6
39.5°	1464.8	1311.8	1152.9	1032.5	969.7	929.9
40°	1426.7	1280.8	1126.6	1009.0	948.2	908.9
40.5°	1389.3	1249.4	1100.4	986.0	926.3	887.8
41°	1352.8	1218.0	1074.2	962.9	904.9	867.1
41.5°	1315.4	1187.0	1048.0	939.5	883.0	846.1
42°	1278.4	1156.4	1022.1	917.2	862.0	825.0
42.5°	1240.7	1124.7	996.7	895.0	840.9	804.7
43°	1204.1	1094.5	970.9	871.9	820.2	784.1
43.5°	1168.0	1063.9	944.6	849.3	799.6	763.8



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1063.1	974.0	869.5	783.3	737.2	702.6
45.5°	1028.5	944.2	844.5	761.4	717.3	682.7
46°	996.3	915.6	820.2	740.4	697.0	663.3
46.5°	962.9	887.0	796.0	719.3	677.6	644.2
47°	931.5	859.6	772.2	697.8	658.1	624.7
47.5°	900.9	831.8	748.3	676.8	639.0	605.6
48°	871.9	805.1	725.7	656.5	620.3	587.0
48.5°	842.5	778.9	702.6	635.8	601.3	568.7
49°	814.3	753.9	680.4	616.4	583.4	550.0
49.5°	787.7	729.2	658.1	596.5	565.5	533.3
50°	761.8	704.6	636.6	577.0	547.6	515.4
50.5°	736.0	680.8	615.2	557.6	530.5	498.3
51°	712.1	658.1	594.9	539.3	512.7	482.1
51.5°	689.1	636.2	574.6	520.6	496.4	466.6
52°	666.4	614.8	555.2	503.5	480.1	451.1
52.5°	644.2	594.1	536.1	485.6	463.8	436.3
53°	623.1	573.9	517.4	468.5	447.9	422.8
53.5°	602.5	554.4	499.5	451.8	432.4	409.7
54°	583.4	535.7	481.7	436.0	417.3	397.8
54.5°	564.3	517.8	465.0	420.1	403.0	387.1
55°	545.6	499.5	448.7	405.0	389.5	377.1
55.5°	528.2	482.8	432.8	390.3	376.3	368.0
56°	510.7	466.6	417.3	376.3	363.6	359.7
56.5°	494.0	450.3	402.2	362.8	351.7	353.3
57°	477.7	434.4	387.9	349.3	341.0	345.7
57.5°	461.8	419.7	374.0	337.0	330.2	337.0
58°	446.7	405.4	360.4	325.1	320.7	328.3
58.5°	431.6	391.0	347.3	313.6	312.0	319.5
59°	416.9	376.7	334.6	302.4	304.0	310.8
59.5°	403.0	364.0	322.3	291.3	296.5	301.6
60°	389.1	350.9	310.4	281.4	288.5	292.9
60.5°	375.5	338.2	298.8	271.4	280.6	284.1
61°	362.4	325.1	287.7	261.9	272.6	275.8
61.5°	350.1	313.6	276.6	252.7	264.7	267.5
62°	337.8	302.0	265.9	244.4	257.1	259.5
62.5°	325.9	290.9	255.9	235.7	249.2	251.2
63°	313.6	279.4	246.0	227.7	241.6	243.6
63.5°	301.6	268.6	236.5	220.2	234.5	235.7
64°	290.1	258.3	226.9	212.6	226.9	228.5
64.5°	279.4	248.0	218.2	205.5	220.2	221.0
65°	267.9	238.0	209.4	199.1	213.0	213.8
65.5°	257.5	228.5	201.1	192.7	206.3	207.0
66°	247.2	219.0	193.1	186.8	199.5	199.9



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	217.8	192.7	170.5	168.9	179.6	180.0
68°	208.6	184.4	163.3	163.3	173.7	174.1
68.5°	199.5	176.1	156.6	157.8	167.3	167.7
69°	190.8	168.5	150.2	151.8	161.7	161.7
69.5°	182.0	160.9	143.9	146.6	155.8	155.4
70°	173.7	153.4	138.3	141.5	149.8	149.8
70.5°	165.3	146.2	132.7	136.3	144.3	143.9
71°	157.4	139.9	127.2	131.5	139.1	138.3
71.5°	149.8	133.5	121.6	126.4	133.5	133.1
72°	142.3	127.2	115.6	121.2	128.4	128.0
72.5°	135.1	120.8	110.9	116.0	123.2	122.4
73°	128.0	114.1	105.7	111.3	118.0	117.2
73.5°	121.2	108.5	100.9	106.5	112.9	112.1
74°	114.5	102.5	96.6	102.1	107.7	107.3
74.5°	108.1	97.0	91.8	97.4	102.9	102.1
75°	101.7	91.8	87.4	92.6	98.2	97.4
75.5°	95.8	86.6	83.5	88.2	93.4	92.6
76°	89.8	81.9	79.1	83.9	88.6	88.2
76.5°	84.2	77.1	75.1	79.9	84.2	83.5
77°	79.1	72.3	71.1	75.5	79.9	79.1
77.5°	73.9	68.0	67.6	71.5	75.1	74.7
78°	68.8	63.6	64.0	67.6	71.1	70.3
78.5°	64.0	59.6	60.0	63.6	66.8	66.4
79°	59.2	55.6	56.8	59.6	62.8	62.0
79.5°	54.8	51.7	53.3	56.0	58.8	58.0
80°	50.1	48.1	49.7	52.1	54.8	54.0
80.5°	46.1	44.5	46.5	48.5	50.9	50.5
81°	42.1	40.9	43.3	44.9	47.3	46.5
81.5°	38.2	37.8	39.7	41.3	43.3	42.9
82°	35.0	34.6	36.6	38.2	39.7	39.3
82.5°	31.4	31.4	33.4	34.6	36.2	35.8
83°	28.2	28.2	30.6	31.4	32.6	32.2
83.5°	24.6	25.4	27.4	28.2	29.4	28.6
84°	21.5	22.7	24.6	25.0	25.8	25.4
84.5°	18.3	19.9	21.9	22.3	22.7	22.3
85°	15.5	17.5	19.1	19.5	19.5	19.1
85.5°	12.7	14.7	16.3	16.7	16.3	15.9
86°	10.3	12.3	13.5	13.9	13.9	13.5
86.5°	7.9	9.9	11.1	11.5	11.9	11.1
87°	6.0	7.6	8.7	9.1	9.5	8.7
87.5°	3.6	5.6	6.4	6.4	7.2	6.4
88°	2.0	3.2	3.6	4.0	5.2	4.4
88.5°	0.4	1.2	1.6	2.0	3.2	2.8



TEST NUMBER: P776472

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-3500K

**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°	1730.3	1751.4	1823.7	1949.7	2115.4	2306.9	2483.8	2603.0	2661.8	2637.2	2530.7
22°	1707.6	1728.7	1802.6	1929.8	2097.5	2291.8	2471.9	2591.9	2651.5	2626.8	2518.7



44°	743.1	765.4	823.0	904.5	1000.3	1118.7	1219.6	1247.1	1274.1	1264.9	1220.8
44.5°	722.9	745.1	801.2	881.4	971.7	1084.9	1182.3	1207.3	1233.1	1222.8	1181.9



66.5°	193.1	194.3	190.0	190.8	211.0	242.4	280.6	298.1	306.4	300.0	274.6
67°	186.8	188.0	184.0	183.2	202.3	232.9	269.4	286.1	293.7	287.7	263.5



89°	1.2	1.6	2.0	1.6	0.8	0.4	0.4	0.0	0.0	0.0	0.0
89.5°	0.4	0.4	0.4	0.4	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°	2357.4	2170.6	1983.8	1838.4	1767.7	1730.3
22°	2342.7	2152.3	1963.6	1816.9	1745.4	1707.6

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

Scaled Data Report



44°	1132.2	1033.3	919.6	827.4	778.1	743.1
44.5°	1097.6	1003.0	894.6	805.1	757.8	722.9



66.5°	237.3	210.2	185.2	180.8	192.7	193.1
67°	227.3	201.5	177.6	174.9	186.4	186.8

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

Scaled Data Report



89°	0.0	0.4	0.4	0.4	1.6	1.2
89.5°	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



(END OF REPORT)