

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: P776470

Luminaire Tested: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776470
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-2700K
Description: 8 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4273.6 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.08 / 1.13
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

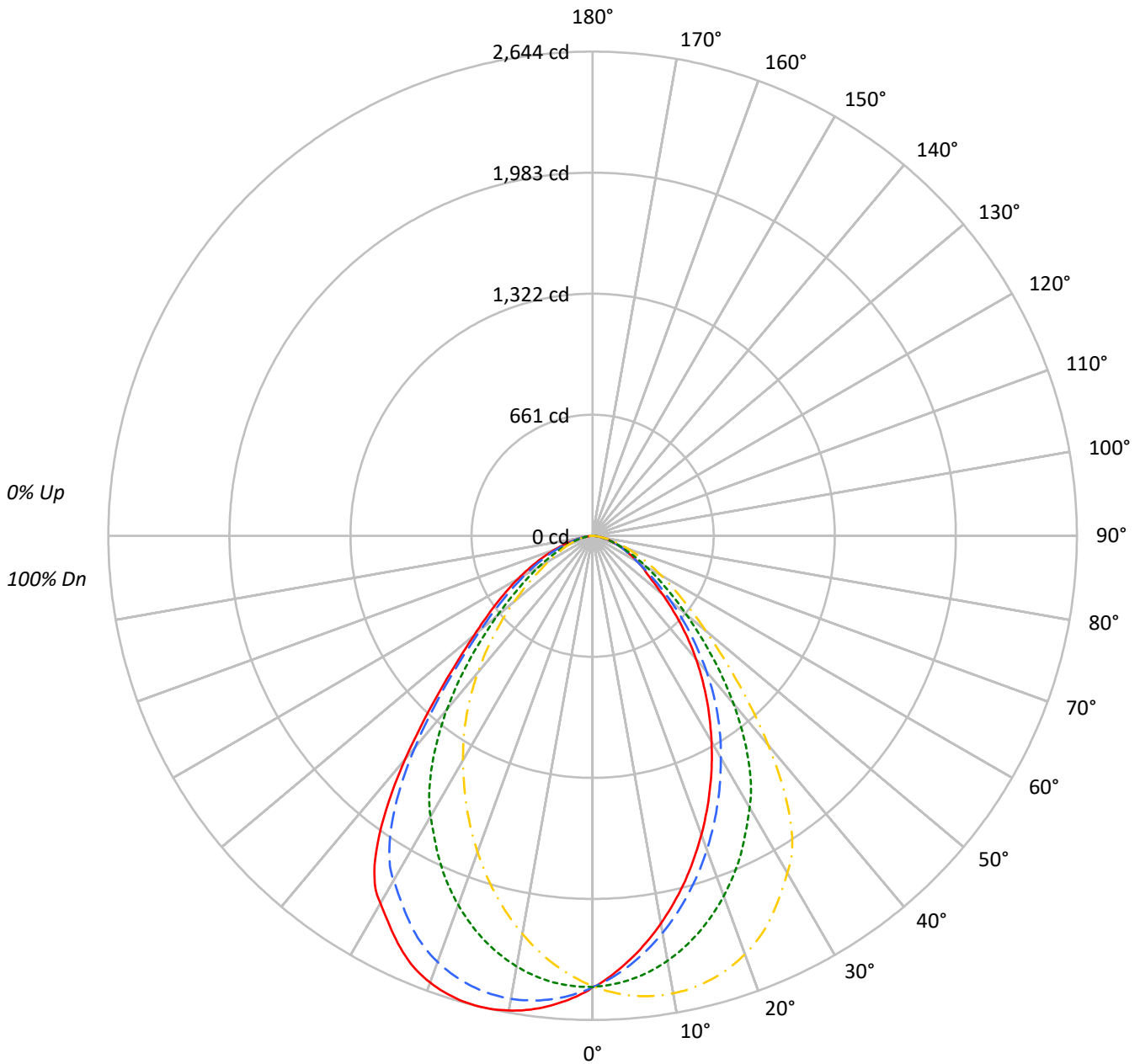
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

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	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°	75254	75254	75254	75254
5°	71260	74506	78894	75024
10°	66631	73045	81614	74034
15°	61650	70860	83478	72242
20°	56448	68024	84363	69694
25°	51119	64516	83640	66325
30°	45783	60452	81700	62388
35°	40390	55142	76259	56942
40°	34988	47658	63400	49308
45°	29304	39329	49774	40625
50°	23649	31633	40111	32326
55°	19391	25523	33837	25682
60°	17274	20651	28717	20700
65°	14918	16695	24013	16608
70°	12917	13327	19397	13229
75°	11100	10593	14757	10463
80°	9178	8510	9512	8158
85°	6445	6445	2837	5920

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°
 Vertical Angle: 45°
 Luminance: 49774 cd/sqm



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.2	5.4
10°-20°	640.7	15.0
20°-30°	905.3	21.2
30°-40°	951.7	22.3
40°-50°	717.5	16.8
50°-60°	444.7	10.4
60°-70°	250.1	5.9
70°-80°	110.4	2.6
80°-90°	21.9	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°	1777.2	41.6
0°-40°	2728.9	63.9
0°-60°	3891.2	91.1
0°-90°	4273.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4273.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2465	2465	2465	2465	2465	
5°	2325	2431	2574	2448	2325	216
15°	1950	2242	2641	2286	1950	546
25°	1518	1915	2483	1969	1518	696
35°	1084	1480	2046	1528	1084	676
45°	679	911	1153	941	679	524
55°	364	480	636	482	364	334
65°	206	231	332	230	206	207
75°	94	90	125	89	94	101
85°	18	18	8	17	18	23
90°	0	0	0	0	0	



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9
0.5°	2456.8	2458.0	2457.6	2457.6	2461.4	2464.1	2466.8	2479.5	2482.2	2482.2	2476.8
1°	2443.8	2445.7	2447.6	2451.5	2459.9	2467.6	2474.5	2490.2	2493.7	2493.3	2485.2
1.5°	2430.3	2432.6	2437.2	2444.9	2458.0	2470.6	2482.2	2500.6	2505.6	2504.4	2494.1
2°	2416.1	2419.2	2426.1	2437.6	2455.7	2473.3	2489.1	2510.2	2516.7	2514.8	2501.7
2.5°	2401.9	2405.4	2415.0	2430.0	2452.6	2475.3	2495.2	2519.4	2527.1	2524.8	2509.8
3°	2387.3	2391.6	2402.7	2422.3	2449.1	2476.8	2501.4	2527.8	2537.8	2534.4	2516.3
3.5°	2372.4	2377.4	2391.2	2413.8	2445.7	2477.9	2507.1	2536.7	2547.4	2543.6	2522.9
4°	2357.0	2362.4	2378.5	2405.4	2441.1	2478.7	2512.1	2544.3	2556.6	2552.4	2529.0
4.5°	2341.3	2347.0	2365.5	2396.2	2436.5	2479.1	2517.1	2552.0	2565.5	2560.5	2535.1
5°	2325.2	2332.1	2352.0	2386.6	2431.1	2478.7	2520.9	2558.9	2574.3	2568.5	2540.1
5.5°	2309.0	2316.3	2339.0	2376.6	2425.7	2478.3	2524.8	2565.5	2582.4	2575.8	2545.1
6°	2292.5	2299.8	2324.8	2365.8	2419.6	2476.8	2528.2	2571.6	2589.6	2582.7	2549.3
6.5°	2275.6	2283.3	2310.6	2355.1	2413.1	2475.3	2530.9	2577.0	2596.6	2589.3	2553.6
7°	2258.0	2266.8	2295.6	2344.0	2406.5	2473.3	2533.2	2582.4	2603.5	2595.0	2556.6
7.5°	2241.1	2250.3	2281.0	2332.4	2398.9	2471.0	2535.1	2587.0	2609.6	2600.8	2559.7
8°	2223.0	2232.6	2265.7	2320.5	2391.2	2467.6	2536.7	2591.2	2615.4	2605.8	2562.0
8.5°	2205.0	2215.4	2250.3	2308.3	2383.1	2464.5	2537.4	2594.6	2620.4	2610.4	2563.9
9°	2186.2	2197.3	2233.8	2295.6	2374.3	2460.7	2537.8	2598.1	2625.0	2614.2	2565.8
9.5°	2168.1	2179.3	2218.1	2282.5	2365.5	2456.4	2537.8	2600.8	2629.2	2617.7	2566.6
10°	2149.3	2160.9	2201.5	2268.7	2356.2	2451.5	2537.4	2602.7	2632.6	2620.7	2567.4
10.5°	2130.1	2142.4	2184.7	2255.7	2346.3	2446.1	2536.7	2604.6	2635.7	2623.4	2567.4
11°	2111.0	2123.6	2167.4	2241.5	2335.9	2440.7	2535.1	2605.8	2638.4	2625.3	2567.0
11.5°	2091.8	2104.8	2150.5	2226.9	2325.5	2434.6	2533.6	2606.5	2640.7	2627.3	2565.8
12°	2072.2	2085.2	2132.8	2211.9	2314.8	2428.4	2531.3	2606.5	2642.2	2628.0	2564.7
12.5°	2051.8	2066.0	2114.8	2197.3	2303.3	2421.5	2528.2	2606.5	2643.4	2628.8	2562.8
13°	2031.5	2046.1	2096.7	2181.6	2291.8	2414.2	2525.2	2605.8	2644.2	2628.8	2560.5
13.5°	2011.9	2026.1	2078.7	2166.6	2280.2	2406.5	2521.3	2604.6	2644.2	2628.4	2557.8
14°	1991.6	2006.5	2060.3	2150.5	2267.2	2398.5	2517.1	2602.7	2643.8	2627.3	2554.3
14.5°	1970.8	1986.2	2041.5	2134.4	2254.5	2389.6	2512.5	2600.8	2642.6	2625.7	2550.5
15°	1950.5	1966.2	2022.3	2117.9	2241.9	2380.8	2507.5	2597.7	2641.1	2623.8	2546.3
15.5°	1929.0	1945.5	2003.1	2101.0	2228.4	2371.2	2501.7	2594.6	2639.2	2621.5	2541.7
16°	1908.3	1924.8	1983.9	2084.1	2214.6	2361.6	2496.0	2590.8	2636.5	2618.4	2536.3
16.5°	1887.1	1904.0	1964.7	2067.2	2200.4	2351.3	2489.5	2586.6	2633.8	2615.0	2530.5
17°	1866.0	1883.7	1945.5	2049.5	2186.2	2340.9	2482.5	2582.0	2630.0	2610.8	2524.4
17.5°	1844.5	1862.6	1925.2	2032.3	2171.6	2330.1	2475.3	2576.6	2625.7	2606.2	2517.5
18°	1823.0	1841.5	1905.6	2013.8	2156.6	2318.6	2467.6	2570.8	2621.1	2600.8	2510.6
18.5°	1801.5	1820.0	1885.2	1996.2	2140.9	2307.1	2459.1	2564.3	2615.8	2595.0	2502.9
19°	1780.4	1798.9	1865.3	1977.7	2125.5	2294.8	2450.3	2557.4	2610.0	2588.9	2494.4
19.5°	1758.2	1777.4	1844.9	1959.3	2109.8	2282.5	2441.1	2550.1	2603.9	2582.0	2485.6
20°	1737.4	1756.2	1824.2	1940.9	2093.7	2269.5	2431.5	2542.0	2596.6	2573.9	2476.4
20.5°	1715.2	1735.1	1803.8	1921.7	2076.8	2256.4	2421.5	2533.6	2588.9	2565.8	2466.8
21°	1693.7	1713.6	1783.1	1902.5	2060.3	2242.6	2410.4	2524.4	2580.4	2557.4	2456.1



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1627.6	1648.4	1720.5	1844.5	2008.5	2198.9	2375.4	2492.5	2550.5	2526.3	2420.7
23°	1605.8	1626.9	1699.4	1824.6	1990.4	2183.5	2362.4	2480.2	2539.0	2514.4	2407.7
23.5°	1583.9	1604.6	1677.9	1804.6	1972.0	2167.8	2348.6	2467.6	2526.3	2501.7	2393.9
24°	1562.0	1583.1	1657.6	1784.7	1953.6	2151.3	2334.4	2453.0	2512.9	2487.5	2378.9
24.5°	1539.7	1561.2	1635.7	1764.3	1934.8	2134.0	2319.0	2438.0	2498.3	2472.9	2363.2
25°	1517.5	1539.4	1614.6	1743.6	1915.2	2116.3	2302.9	2422.3	2482.9	2457.2	2346.7
25.5°	1495.6	1517.1	1593.1	1722.8	1894.8	2097.5	2286.0	2406.5	2467.2	2441.9	2329.8
26°	1473.7	1496.0	1571.6	1702.1	1875.2	2078.7	2268.7	2389.3	2451.1	2424.6	2312.1
26.5°	1451.8	1474.1	1550.1	1681.4	1854.5	2059.1	2250.7	2372.0	2434.6	2408.1	2294.8
27°	1430.3	1452.2	1529.0	1660.3	1833.8	2040.3	2233.0	2355.1	2417.7	2391.6	2276.8
27.5°	1408.1	1430.3	1507.5	1638.8	1813.8	2021.1	2215.0	2338.6	2400.8	2374.3	2259.1
28°	1385.8	1408.8	1485.6	1617.7	1793.5	2001.9	2197.3	2320.9	2383.5	2357.0	2241.5
28.5°	1363.5	1386.6	1464.1	1596.6	1773.5	1982.4	2178.5	2304.0	2367.0	2340.5	2224.2
29°	1342.0	1365.1	1443.4	1575.8	1753.6	1963.5	2160.9	2286.8	2349.7	2323.2	2206.2
29.5°	1320.5	1343.2	1421.9	1555.1	1734.0	1944.7	2142.8	2270.3	2333.2	2306.3	2188.9
30°	1298.7	1321.7	1400.4	1535.1	1714.8	1926.3	2125.5	2254.1	2317.5	2290.6	2172.8
30.5°	1276.4	1300.2	1379.3	1514.4	1694.8	1907.9	2108.6	2238.8	2302.5	2275.6	2156.6
31°	1254.9	1278.7	1358.9	1494.4	1675.2	1889.8	2092.5	2221.9	2286.0	2258.4	2138.2
31.5°	1233.4	1257.2	1338.2	1473.3	1653.8	1869.1	2073.3	2201.2	2266.4	2238.4	2117.1
32°	1211.9	1236.1	1317.1	1452.6	1631.5	1847.2	2051.8	2177.4	2243.4	2215.0	2092.5
32.5°	1189.6	1214.2	1296.4	1430.3	1607.7	1822.3	2027.6	2152.0	2217.3	2188.5	2066.4
33°	1168.5	1193.5	1274.9	1408.8	1583.5	1796.9	2001.5	2122.5	2187.7	2159.3	2038.4
33.5°	1147.8	1172.8	1254.1	1385.8	1557.8	1769.3	1972.8	2091.4	2155.9	2127.8	2007.7
34°	1126.3	1151.6	1232.3	1362.0	1532.1	1741.3	1942.8	2056.8	2121.3	2094.4	1976.2
34.5°	1105.2	1130.9	1210.4	1338.6	1506.0	1712.1	1910.6	2021.5	2084.8	2058.7	1943.2
35°	1083.7	1109.8	1188.5	1315.2	1479.5	1681.4	1877.6	1982.7	2046.1	2020.4	1909.4
35.5°	1062.6	1088.7	1166.6	1291.0	1451.8	1651.1	1842.2	1943.2	2005.0	1982.0	1873.7
36°	1042.2	1067.6	1144.7	1266.8	1424.6	1620.0	1806.9	1901.7	1962.4	1940.9	1836.1
36.5°	1021.1	1046.8	1122.8	1242.2	1396.2	1587.7	1770.8	1860.3	1918.6	1898.3	1797.7
37°	1000.8	1026.1	1101.0	1218.4	1368.1	1554.7	1731.7	1815.7	1873.7	1854.5	1758.9
37.5°	979.7	1005.0	1078.3	1193.9	1339.7	1522.1	1693.3	1771.2	1828.0	1809.2	1718.6
38°	959.3	984.3	1056.4	1168.9	1310.6	1488.3	1653.0	1726.7	1781.6	1763.9	1677.9
38.5°	938.6	962.8	1034.2	1143.6	1282.2	1455.3	1613.1	1683.7	1734.7	1718.2	1636.1
39°	918.2	942.4	1011.9	1119.0	1254.5	1421.1	1573.1	1636.9	1686.4	1671.8	1594.2
39.5°	898.3	921.7	990.0	1094.4	1225.3	1386.6	1532.4	1591.9	1638.4	1624.2	1552.0
40°	877.9	901.0	967.0	1069.5	1195.8	1352.0	1491.8	1545.9	1590.8	1577.4	1509.4
40.5°	857.6	880.2	945.1	1043.8	1167.0	1317.9	1450.3	1502.1	1542.8	1530.9	1466.4
41°	837.6	859.9	922.8	1019.2	1137.8	1283.3	1410.4	1456.8	1496.7	1484.8	1424.2
41.5°	817.3	839.5	901.3	994.6	1109.4	1248.4	1370.4	1411.9	1449.1	1438.8	1382.0
42°	796.9	819.2	879.5	970.1	1080.2	1214.2	1330.9	1368.9	1404.2	1393.1	1340.5
42.5°	777.4	799.2	857.6	946.3	1051.4	1180.0	1292.1	1326.7	1359.3	1348.6	1299.4
43°	757.4	779.3	836.9	922.1	1023.0	1147.0	1253.0	1285.2	1315.6	1306.0	1258.7
43.5°	737.8	759.3	815.7	898.3	994.2	1113.6	1215.0	1244.5	1272.6	1262.6	1218.4



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	678.7	700.6	753.2	827.6	910.9	1016.5	1106.3	1129.0	1152.8	1144.0	1105.6
45.5°	659.5	680.6	732.8	805.0	884.1	985.8	1071.8	1093.3	1115.6	1106.0	1069.1
46°	640.7	661.8	712.5	782.7	857.6	955.9	1038.4	1058.4	1079.9	1070.6	1033.8
46.5°	622.3	643.4	693.3	760.5	831.9	925.5	1005.8	1024.2	1045.3	1035.7	999.6
47°	603.5	624.2	672.9	737.4	806.1	896.0	973.9	992.7	1012.7	1002.7	967.8
47.5°	585.0	606.5	653.4	716.7	781.2	868.0	943.2	962.0	982.0	971.2	936.3
48°	567.0	588.5	634.2	694.8	757.4	841.5	913.6	932.4	952.0	941.7	906.0
48.5°	549.3	570.8	615.0	673.7	734.4	814.6	885.6	904.0	922.8	912.1	876.4
49°	531.3	553.9	596.5	653.0	710.9	788.1	857.6	877.2	896.4	885.2	849.1
49.5°	515.2	537.0	577.7	633.0	687.9	763.9	831.5	850.7	869.9	857.6	821.5
50°	497.9	520.2	559.7	612.7	666.0	739.7	805.8	825.7	844.5	832.6	795.8
50.5°	481.4	504.4	541.7	592.7	644.9	715.9	780.4	801.2	820.0	807.7	770.8
51°	465.6	487.9	524.4	573.5	624.2	692.9	756.6	778.1	796.5	783.9	747.0
51.5°	450.7	472.6	507.1	555.1	604.2	671.0	734.0	755.5	774.3	761.6	724.0
52°	435.7	456.8	489.8	537.0	584.6	649.5	711.3	734.4	752.4	739.4	701.7
52.5°	421.5	442.2	473.7	519.0	565.8	629.6	689.8	712.9	731.7	717.9	679.8
53°	408.4	427.6	457.6	501.3	547.4	609.2	668.7	692.9	711.3	697.5	659.1
53.5°	395.8	413.4	441.8	484.5	529.8	589.6	648.8	673.3	691.7	677.5	638.8
54°	384.3	399.6	426.5	467.9	512.5	570.4	629.2	654.1	672.9	658.4	620.0
54.5°	373.9	386.6	411.5	452.6	496.0	552.8	610.0	635.7	654.1	639.5	601.2
55°	364.3	374.3	397.3	436.9	479.5	534.7	591.9	617.7	635.7	621.5	582.7
55.5°	355.5	362.0	383.5	422.3	463.7	517.5	574.3	600.0	618.0	603.8	565.1
56°	347.4	350.9	370.1	407.3	448.0	501.0	556.6	583.1	600.4	587.0	547.8
56.5°	341.3	340.1	357.4	393.5	433.0	484.5	539.7	566.2	583.1	569.3	530.9
57°	334.0	330.1	344.7	379.7	418.0	468.3	523.2	549.7	566.2	552.8	514.8
57.5°	325.5	320.9	332.8	366.2	403.8	453.0	507.1	534.0	549.7	537.0	499.0
58°	317.1	313.2	321.3	353.2	390.0	438.4	491.4	517.9	533.2	521.3	483.7
58.5°	308.6	305.6	310.2	340.9	376.6	423.8	476.4	502.1	516.7	505.2	467.9
59°	300.2	297.9	299.4	328.6	363.5	409.6	461.0	486.8	501.0	489.4	453.4
59.5°	291.4	289.8	289.4	316.7	350.9	395.8	446.5	471.4	485.2	474.1	438.8
60°	282.9	282.2	279.5	305.2	338.2	382.3	432.2	456.8	470.3	459.5	424.6
60.5°	274.5	274.1	270.3	294.1	326.7	369.7	417.7	442.2	454.9	444.5	410.8
61°	266.4	266.0	261.0	282.9	315.2	356.6	403.8	428.0	440.3	430.3	396.9
61.5°	258.4	258.4	252.2	272.6	303.3	344.0	390.4	413.8	425.7	416.5	383.9
62°	250.7	250.7	244.1	262.2	291.7	332.4	377.7	400.0	411.5	403.1	370.8
62.5°	242.6	243.0	236.1	252.2	281.4	320.5	364.7	386.2	397.7	388.5	358.2
63°	235.3	235.7	228.4	242.6	270.6	309.0	352.0	373.1	383.9	375.4	345.9
63.5°	227.6	228.4	221.1	233.4	260.3	297.5	339.7	360.5	370.4	362.4	334.0
64°	220.7	221.1	214.6	224.6	250.3	286.0	327.8	347.4	357.4	349.7	322.1
64.5°	213.4	214.2	208.1	216.1	240.3	275.2	315.9	335.5	344.7	337.4	310.6
65°	206.5	207.7	201.9	207.7	231.1	264.9	304.0	323.6	332.4	325.5	298.7
65.5°	200.0	200.8	195.8	199.6	221.9	254.5	292.5	311.7	320.2	313.6	286.8
66°	193.1	194.2	189.6	191.9	212.7	244.1	281.8	299.8	308.3	301.7	276.0



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	173.9	175.4	171.6	170.1	187.3	215.7	249.9	265.3	271.8	266.8	244.1
68°	168.1	169.3	166.2	163.5	178.9	206.5	239.5	254.1	260.3	255.7	233.8
68.5°	162.0	163.1	160.5	157.0	171.2	197.7	229.2	243.8	249.5	245.3	224.2
69°	156.2	157.4	154.7	150.9	163.9	188.9	219.6	233.0	238.4	234.6	214.2
69.5°	150.1	151.6	149.3	144.7	156.6	180.8	210.0	223.0	228.0	224.2	205.0
70°	144.7	145.9	144.0	138.6	149.3	172.7	200.8	213.1	217.3	214.2	195.8
70.5°	139.0	140.5	138.2	133.2	142.8	164.7	191.6	203.5	207.3	205.0	186.9
71°	133.6	135.1	133.2	128.2	135.9	157.0	183.1	193.9	197.3	195.0	177.7
71.5°	128.6	130.1	128.6	123.2	129.8	149.3	174.3	185.0	187.7	185.8	169.3
72°	123.6	125.1	123.6	118.2	123.2	142.0	165.8	175.4	177.7	176.6	160.8
72.5°	118.2	119.8	119.0	112.9	117.1	135.1	157.4	167.0	168.5	167.4	152.4
73°	113.2	114.8	114.0	108.3	111.3	128.2	149.3	158.2	159.3	158.9	144.3
73.5°	108.3	109.8	109.0	103.6	105.6	121.3	141.3	149.7	150.5	150.5	137.0
74°	103.6	104.8	104.4	99.4	100.2	114.8	134.0	141.7	142.0	142.4	129.4
74.5°	98.7	100.2	99.8	94.8	94.8	108.6	126.3	134.0	133.2	134.4	121.7
75°	94.1	95.6	95.6	90.6	89.8	102.5	119.0	125.9	125.1	126.3	114.8
75.5°	89.4	91.0	91.0	86.8	85.2	96.7	112.1	118.6	117.1	119.0	107.9
76°	85.2	86.4	86.8	82.5	80.2	91.0	105.2	111.3	109.0	111.7	101.0
76.5°	80.6	82.2	82.5	78.7	76.0	85.2	98.7	104.0	101.3	104.4	94.4
77°	76.4	77.5	78.3	74.9	71.4	80.2	92.5	97.1	94.1	97.5	88.3
77.5°	72.2	73.3	74.1	71.0	67.2	74.9	86.0	90.6	86.8	91.0	82.2
78°	67.9	69.5	70.2	67.2	63.3	70.2	80.2	84.1	79.8	84.5	76.0
78.5°	64.1	65.3	66.0	63.7	59.1	65.3	74.5	77.9	72.9	77.9	70.6
79°	59.9	61.4	62.2	59.9	55.7	60.7	68.7	71.8	66.4	72.2	64.9
79.5°	56.0	57.6	58.3	56.4	51.8	56.4	63.3	66.0	60.3	66.0	59.9
80°	52.2	53.4	54.5	53.0	48.4	52.2	58.0	60.3	54.1	60.7	54.5
80.5°	48.8	49.5	51.1	49.5	44.9	48.0	53.4	54.5	48.4	54.9	49.5
81°	44.9	46.1	47.6	46.4	41.5	44.1	48.4	49.1	42.6	49.5	44.9
81.5°	41.5	42.6	44.1	43.0	38.4	40.3	43.8	43.8	37.6	44.5	40.3
82°	38.0	38.8	40.7	39.9	35.3	36.5	39.5	39.2	32.6	39.9	36.5
82.5°	34.5	35.3	37.2	36.5	32.2	33.4	35.7	34.5	28.0	35.3	32.6
83°	31.1	32.2	34.2	33.4	29.6	30.3	31.9	29.9	23.0	30.7	28.4
83.5°	27.6	28.8	30.7	30.7	26.9	26.9	28.0	25.3	18.0	26.1	24.6
84°	24.6	25.3	27.6	27.6	23.8	23.8	24.2	20.7	14.2	21.5	20.7
84.5°	21.5	22.3	24.6	24.6	21.1	20.7	20.3	16.5	10.7	16.9	17.7
85°	18.4	19.2	21.5	21.9	18.4	18.0	17.3	13.1	8.1	13.1	14.6
85.5°	15.4	15.7	18.8	18.8	15.7	15.4	14.6	10.4	6.1	10.4	11.9
86°	13.1	13.8	16.1	16.1	13.4	12.7	11.9	7.7	5.0	7.7	9.2
86.5°	10.7	11.5	13.4	13.8	11.1	10.4	9.2	5.4	3.8	5.4	6.9
87°	8.4	9.2	11.1	11.1	8.8	8.1	6.9	3.5	2.7	3.5	5.0
87.5°	6.1	6.9	8.8	8.8	6.5	5.8	5.0	1.9	1.9	1.9	3.1
88°	4.2	5.0	6.5	6.1	4.6	3.8	3.1	0.8	0.8	0.8	1.5
88.5°	2.7	3.1	3.8	3.8	2.3	1.9	1.5	0.4	0.4	0.4	0.4



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2464.9	2464.9	2464.9	2464.9	2464.9	2464.9
0.5°	2468.7	2463.4	2456.1	2449.5	2457.2	2456.8
1°	2473.3	2463.4	2451.1	2440.7	2445.3	2443.8
1.5°	2477.6	2463.4	2445.7	2431.1	2433.0	2430.3
2°	2481.8	2462.2	2439.9	2420.7	2420.4	2416.1
2.5°	2485.2	2461.0	2433.4	2410.0	2407.3	2401.9
3°	2488.3	2459.1	2426.9	2399.6	2393.9	2387.3
3.5°	2490.6	2456.8	2419.6	2388.5	2380.4	2372.4
4°	2492.9	2454.5	2412.3	2377.0	2366.2	2357.0
4.5°	2494.4	2451.5	2404.2	2364.7	2351.6	2341.3
5°	2495.2	2448.0	2396.2	2352.0	2337.1	2325.2
5.5°	2496.0	2444.2	2387.0	2339.4	2321.7	2309.0
6°	2496.4	2439.6	2378.1	2326.3	2306.3	2292.5
6.5°	2496.0	2434.6	2368.5	2312.5	2290.6	2275.6
7°	2495.2	2429.6	2358.2	2299.1	2274.1	2258.0
7.5°	2494.1	2423.4	2347.8	2284.1	2258.0	2241.1
8°	2492.5	2417.3	2337.1	2269.9	2241.1	2223.0
8.5°	2490.6	2410.8	2325.5	2254.5	2224.2	2205.0
9°	2487.9	2403.5	2313.6	2239.5	2206.5	2186.2
9.5°	2484.8	2395.8	2301.4	2223.4	2188.9	2168.1
10°	2481.4	2388.1	2289.1	2208.1	2171.2	2149.3
10.5°	2477.6	2379.7	2276.4	2191.6	2153.2	2130.1
11°	2472.9	2370.5	2263.4	2175.4	2134.8	2111.0
11.5°	2468.3	2361.2	2249.5	2158.2	2115.9	2091.8
12°	2462.6	2351.6	2235.7	2141.3	2097.1	2072.2
12.5°	2457.2	2341.7	2221.5	2124.0	2077.9	2051.8
13°	2450.7	2331.3	2207.3	2106.3	2058.7	2031.5
13.5°	2444.2	2320.5	2192.3	2088.7	2039.5	2011.9
14°	2436.9	2309.4	2177.0	2070.3	2019.6	1991.6
14.5°	2429.6	2297.9	2161.2	2051.8	2000.0	1970.8
15°	2421.5	2285.6	2145.9	2033.8	1979.7	1950.5
15.5°	2413.1	2273.3	2129.4	2014.2	1959.3	1929.0
16°	2404.2	2260.3	2113.3	1995.4	1939.0	1908.3
16.5°	2395.0	2247.6	2096.7	1975.8	1918.2	1887.1
17°	2385.0	2233.8	2079.5	1957.0	1897.9	1866.0
17.5°	2375.1	2220.0	2062.6	1937.8	1877.2	1844.5
18°	2364.3	2205.8	2044.9	1917.5	1856.4	1823.0
18.5°	2353.6	2191.2	2027.3	1897.5	1835.3	1801.5
19°	2341.7	2176.2	2009.2	1877.9	1813.8	1780.4
19.5°	2329.8	2161.2	1991.2	1858.0	1792.7	1758.2
20°	2317.5	2145.1	1972.8	1837.6	1771.6	1737.4
20.5°	2304.4	2129.8	1954.3	1816.9	1750.5	1715.2
21°	2291.4	2113.3	1935.1	1796.6	1729.0	1693.7

TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2248.8	2062.6	1877.6	1734.4	1664.5	1627.6
23°	2233.4	2044.5	1857.6	1713.3	1642.2	1605.8
23.5°	2216.9	2026.5	1837.6	1692.5	1621.1	1583.9
24°	2200.4	2008.1	1817.3	1670.6	1599.6	1562.0
24.5°	2182.7	1988.9	1796.9	1650.3	1577.4	1539.7
25°	2164.3	1968.9	1776.2	1628.4	1555.5	1517.5
25.5°	2145.9	1949.3	1755.5	1606.9	1534.0	1495.6
26°	2126.7	1929.4	1734.4	1585.8	1512.1	1473.7
26.5°	2107.9	1908.6	1713.3	1564.7	1490.2	1451.8
27°	2089.1	1887.9	1691.8	1542.8	1468.7	1430.3
27.5°	2069.9	1868.0	1670.6	1520.9	1446.5	1408.1
28°	2050.7	1848.0	1649.5	1499.4	1425.0	1385.8
28.5°	2031.9	1827.6	1629.2	1478.7	1402.7	1363.5
29°	2013.4	1808.1	1608.5	1457.2	1381.6	1342.0
29.5°	1995.4	1788.9	1588.5	1436.5	1359.7	1320.5
30°	1977.7	1769.7	1568.1	1415.0	1338.2	1298.7
30.5°	1959.3	1750.5	1547.4	1394.2	1316.7	1276.4
31°	1938.6	1729.8	1526.3	1373.5	1295.6	1254.9
31.5°	1916.7	1708.3	1505.6	1352.4	1274.1	1233.4
32°	1892.1	1684.5	1483.3	1331.3	1252.6	1211.9
32.5°	1866.0	1659.9	1460.7	1309.8	1231.1	1189.6
33°	1838.4	1635.3	1437.6	1288.3	1210.4	1168.5
33.5°	1810.0	1608.8	1414.2	1266.8	1189.3	1147.8
34°	1780.4	1582.3	1390.0	1244.9	1168.1	1126.3
34.5°	1750.5	1555.5	1365.5	1222.7	1147.0	1105.2
35°	1719.8	1527.8	1340.9	1200.4	1126.3	1083.7
35.5°	1687.9	1500.2	1316.3	1177.7	1104.8	1062.6
36°	1655.7	1471.8	1291.4	1155.9	1084.1	1042.2
36.5°	1622.3	1443.8	1266.4	1133.2	1063.0	1021.1
37°	1588.5	1414.6	1240.7	1110.2	1041.8	1000.8
37.5°	1554.3	1385.8	1215.7	1087.5	1020.7	979.7
38°	1519.8	1355.9	1190.0	1064.9	999.6	959.3
38.5°	1485.2	1326.7	1164.7	1042.2	978.5	938.6
39°	1450.3	1296.7	1139.7	1020.0	957.4	918.2
39.5°	1415.0	1267.2	1113.6	997.3	936.7	898.3
40°	1378.1	1237.2	1088.3	974.7	915.9	877.9
40.5°	1342.0	1206.9	1063.0	952.4	894.8	857.6
41°	1306.7	1176.6	1037.6	930.1	874.1	837.6
41.5°	1270.6	1146.6	1012.3	907.5	853.0	817.3
42°	1234.9	1117.1	987.3	886.0	832.6	796.9
42.5°	1198.5	1086.4	962.8	864.5	812.3	777.4
43°	1163.2	1057.2	937.8	842.2	792.3	757.4
43.5°	1128.2	1027.6	912.5	820.3	772.4	737.8

TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1026.9	940.9	839.9	756.6	712.1	678.7
45.5°	993.5	912.1	815.7	735.5	692.9	659.5
46°	962.4	884.5	792.3	715.2	673.3	640.7
46.5°	930.1	856.8	768.9	694.8	654.5	622.3
47°	899.8	830.3	745.9	674.1	635.7	603.5
47.5°	870.3	803.5	722.8	653.7	617.3	585.0
48°	842.2	777.7	701.0	634.2	599.2	567.0
48.5°	813.8	752.4	678.7	614.2	580.8	549.3
49°	786.6	728.2	657.2	595.4	563.5	531.3
49.5°	760.8	704.4	635.7	576.2	546.3	515.2
50°	735.9	680.6	615.0	557.4	529.0	497.9
50.5°	710.9	657.6	594.2	538.6	512.5	481.4
51°	687.9	635.7	574.7	520.9	495.2	465.6
51.5°	665.6	614.6	555.1	502.9	479.5	450.7
52°	643.8	593.9	536.3	486.4	463.7	435.7
52.5°	622.3	573.9	517.9	469.1	448.0	421.5
53°	601.9	554.3	499.8	452.6	432.6	408.4
53.5°	582.0	535.5	482.5	436.5	417.7	395.8
54°	563.5	517.5	465.3	421.1	403.1	384.3
54.5°	545.1	500.2	449.1	405.8	389.3	373.9
55°	527.1	482.5	433.4	391.2	376.2	364.3
55.5°	510.2	466.4	418.0	377.0	363.5	355.5
56°	493.3	450.7	403.1	363.5	351.2	347.4
56.5°	477.2	434.9	388.5	350.5	339.7	341.3
57°	461.4	419.6	374.7	337.4	329.4	334.0
57.5°	446.1	405.4	361.2	325.5	319.0	325.5
58°	431.5	391.6	348.2	314.0	309.8	317.1
58.5°	416.9	377.7	335.5	302.9	301.3	308.6
59°	402.7	363.9	323.2	292.1	293.7	300.2
59.5°	389.3	351.6	311.3	281.4	286.4	291.4
60°	375.8	339.0	299.8	271.8	278.7	282.9
60.5°	362.8	326.7	288.7	262.2	271.0	274.5
61°	350.1	314.0	277.9	253.0	263.3	266.4
61.5°	338.2	302.9	267.2	244.1	255.7	258.4
62°	326.3	291.7	256.8	236.1	248.4	250.7
62.5°	314.8	281.0	247.2	227.6	240.7	242.6
63°	302.9	269.9	237.6	220.0	233.4	235.3
63.5°	291.4	259.5	228.4	212.7	226.5	227.6
64°	280.2	249.5	219.2	205.4	219.2	220.7
64.5°	269.9	239.5	210.7	198.5	212.7	213.4
65°	258.7	229.9	202.3	192.3	205.8	206.5
65.5°	248.8	220.7	194.2	186.2	199.2	200.0
66°	238.8	211.5	186.6	180.4	192.7	193.1



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	210.4	186.2	164.7	163.1	173.5	173.9
68°	201.5	178.1	157.8	157.8	167.8	168.1
68.5°	192.7	170.1	151.2	152.4	161.6	162.0
69°	184.3	162.8	145.1	146.6	156.2	156.2
69.5°	175.8	155.5	139.0	141.7	150.5	150.1
70°	167.8	148.2	133.6	136.7	144.7	144.7
70.5°	159.7	141.3	128.2	131.7	139.3	139.0
71°	152.0	135.1	122.8	127.1	134.4	133.6
71.5°	144.7	129.0	117.5	122.1	129.0	128.6
72°	137.4	122.8	111.7	117.1	124.0	123.6
72.5°	130.5	116.7	107.1	112.1	119.0	118.2
73°	123.6	110.2	102.1	107.5	114.0	113.2
73.5°	117.1	104.8	97.5	102.9	109.0	108.3
74°	110.6	99.0	93.3	98.7	104.0	103.6
74.5°	104.4	93.7	88.7	94.1	99.4	98.7
75°	98.3	88.7	84.5	89.4	94.8	94.1
75.5°	92.5	83.7	80.6	85.2	90.2	89.4
76°	86.8	79.1	76.4	81.0	85.6	85.2
76.5°	81.4	74.5	72.6	77.2	81.4	80.6
77°	76.4	69.9	68.7	72.9	77.2	76.4
77.5°	71.4	65.6	65.3	69.1	72.6	72.2
78°	66.4	61.4	61.8	65.3	68.7	67.9
78.5°	61.8	57.6	58.0	61.4	64.5	64.1
79°	57.2	53.7	54.9	57.6	60.7	59.9
79.5°	53.0	49.9	51.4	54.1	56.8	56.0
80°	48.4	46.4	48.0	50.3	53.0	52.2
80.5°	44.5	43.0	44.9	46.8	49.1	48.8
81°	40.7	39.5	41.8	43.4	45.7	44.9
81.5°	36.9	36.5	38.4	39.9	41.8	41.5
82°	33.8	33.4	35.3	36.9	38.4	38.0
82.5°	30.3	30.3	32.2	33.4	34.9	34.5
83°	27.3	27.3	29.6	30.3	31.5	31.1
83.5°	23.8	24.6	26.5	27.3	28.4	27.6
84°	20.7	21.9	23.8	24.2	25.0	24.6
84.5°	17.7	19.2	21.1	21.5	21.9	21.5
85°	15.0	16.9	18.4	18.8	18.8	18.4
85.5°	12.3	14.2	15.7	16.1	15.7	15.4
86°	10.0	11.9	13.1	13.4	13.4	13.1
86.5°	7.7	9.6	10.7	11.1	11.5	10.7
87°	5.8	7.3	8.4	8.8	9.2	8.4
87.5°	3.5	5.4	6.1	6.1	6.9	6.1
88°	1.9	3.1	3.5	3.8	5.0	4.2
88.5°	0.4	1.2	1.5	1.9	3.1	2.7



TEST NUMBER: P776470

CATALOG NUMBER: HCDJBL3040CSD-HCD82TRH-HCD82TRLWW-4000lm-2700K

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°	1671.4	1691.8	1761.6	1883.3	2043.4	2228.4	2399.2	2514.4	2571.2	2547.4	2444.5
22°	1649.5	1669.9	1741.3	1864.1	2026.1	2213.8	2387.7	2503.7	2561.2	2537.4	2433.0



44°	717.9	739.4	795.0	873.7	966.2	1080.6	1178.1	1204.6	1230.7	1221.9	1179.3
44.5°	698.3	719.8	773.9	851.4	938.6	1048.0	1142.0	1166.2	1191.2	1181.2	1141.7



66.5°	186.6	187.7	183.5	184.3	203.8	234.2	271.0	287.9	296.0	289.8	265.3
67°	180.4	181.6	177.7	177.0	195.4	225.0	260.3	276.4	283.7	277.9	254.5



89°	1.2	1.5	1.9	1.5	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°	2277.2	2096.7	1916.3	1775.8	1707.5	1671.4
22°	2263.0	2079.1	1896.7	1755.1	1686.0	1649.5



44°	1093.7	998.1	888.3	799.2	751.6	717.9
44.5°	1060.3	968.9	864.1	777.7	732.1	698.3



66.5°	229.2	203.1	178.9	174.7	186.2	186.6
67°	219.6	194.6	171.6	168.9	180.0	180.4

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	1.5	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)