

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: P776332

Luminaire Tested: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776332  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2310613A001)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K  
Description: 4 INCH SQUARE MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

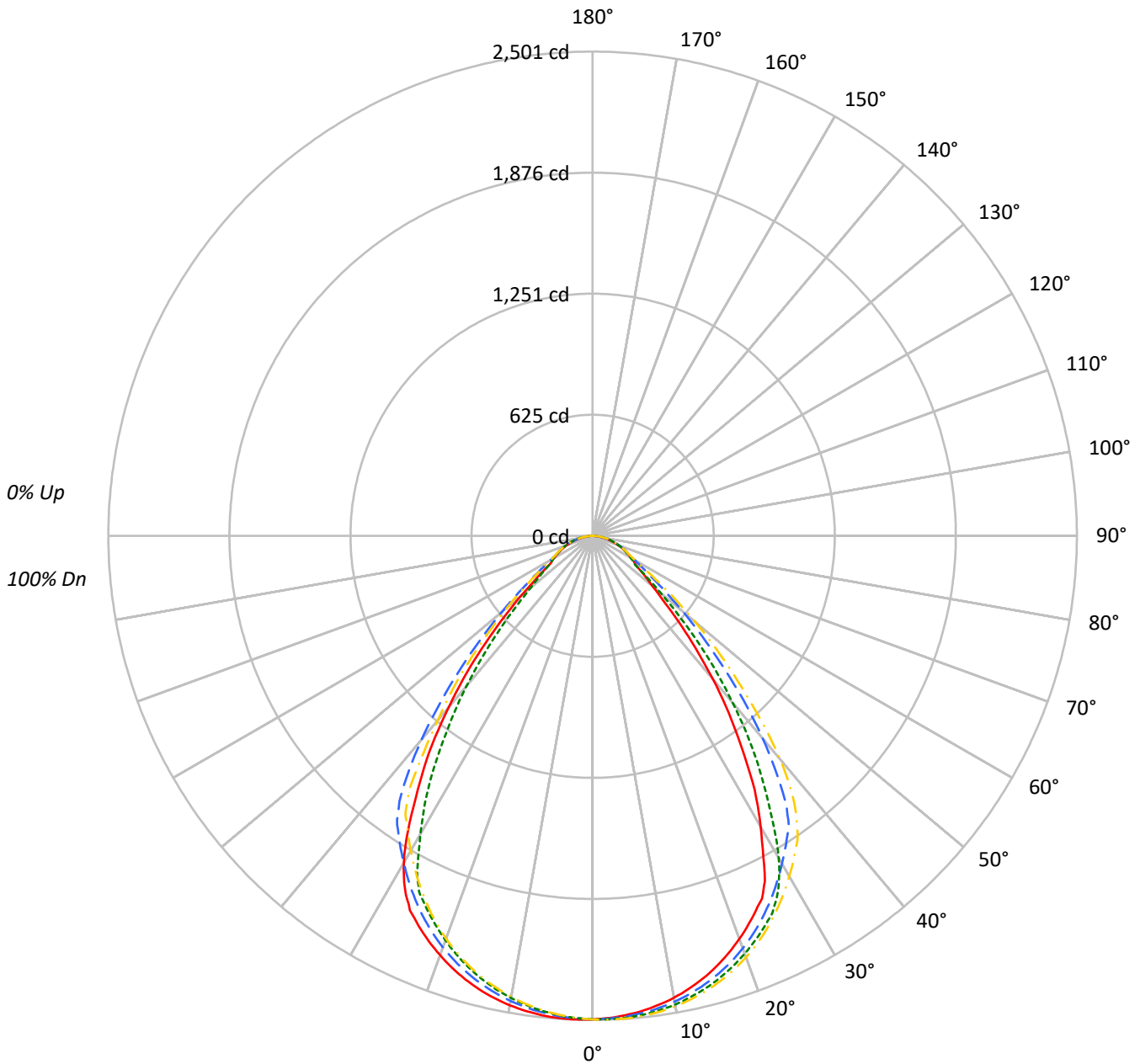
Lumens per Lamp: N/A  
Luminaire Lumens: 4130.3 lumens  
Efficiency: N/A  
Efficacy: 107.3 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.13 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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: P776332  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

### Luminous Intensity Polar Plot





TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-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	0					
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100								
1	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89								
2	104	97	92	88	101	96	91	86	92	88	85	89	86	83	86	83	81	79								
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	70								
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63								
5	84	73	66	61	82	72	65	60	70	64	60	69	63	59	67	62	58	57								
6	79	67	60	55	77	67	59	54	65	59	54	63	58	53	62	57	53	51								
7	74	62	55	49	72	61	54	49	60	54	49	59	53	49	57	52	48	47								
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43								
9	65	53	46	41	64	53	46	41	52	46	41	51	45	41	50	45	41	39								
10	61	50	43	38	60	49	43	38	48	42	38	48	42	38	47	41	38	36								

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

	0°	90°	180°	270°
0°	246858	246858	246858	246858
5°	245559	247256	247494	245678
10°	243129	246722	247164	243370
15°	239133	244955	245641	239583
20°	233018	241590	242463	233901
25°	225559	236966	237653	226475
30°	198078	219307	222582	202974
35°	162510	183795	187777	168688
40°	124629	144952	149300	130784
45°	87631	105187	109409	93292
50°	61985	70412	74025	64184
55°	49044	48424	51301	50078
60°	45962	44558	45349	45883
65°	43315	42777	43034	44344
70°	39968	41008	40546	42974
75°	35975	38877	37350	41436
80°	28517	35974	32331	38934
85°	13949	29259	19393	34249

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 147975 cd/sqm



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.8	5.7
10°-20°	667.1	16.2
20°-30°	972.4	23.5
30°-40°	978.1	23.7
40°-50°	641.2	15.5
50°-60°	310.7	7.5
60°-70°	188.9	4.6
70°-80°	108.7	2.6
80°-90°	27.3	0.7
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°	1875.3	45.4
0°-40°	2853.4	69.1
0°-60°	3805.4	92.1
0°-90°	4130.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4130.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2498	2498	2498	2498	2498	
5°	2475	2492	2494	2476	2475	235
15°	2337	2394	2400	2341	2337	657
25°	2068	2173	2179	2077	2068	932
35°	1347	1523	1556	1398	1347	840
45°	627	752	783	667	627	494
55°	285	281	298	291	285	266
65°	185	183	184	190	185	183
75°	94	102	98	108	94	99
85°	12	26	17	30	12	18
90°	0	0	0	0	0	



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5
0.5°	2497.1	2496.3	2496.7	2496.7	2498.3	2498.7	2499.5	2499.9	2499.1	2497.5	2496.3
1°	2495.9	2495.1	2496.3	2497.1	2498.7	2499.5	2500.3	2500.7	2499.5	2497.5	2495.9
1.5°	2494.0	2494.0	2495.9	2497.1	2498.7	2499.9	2501.1	2501.1	2499.9	2497.5	2495.1
2°	2492.0	2492.4	2495.1	2497.1	2498.7	2499.9	2501.1	2501.1	2499.9	2497.1	2494.0
2.5°	2490.0	2490.8	2494.0	2496.3	2498.3	2499.9	2501.1	2501.1	2499.9	2496.7	2492.8
3°	2487.2	2488.4	2492.4	2495.5	2497.1	2499.5	2500.7	2501.1	2499.1	2495.9	2491.2
3.5°	2484.8	2486.0	2490.8	2494.8	2496.3	2498.7	2500.3	2500.3	2498.3	2494.8	2489.2
4°	2482.0	2483.6	2488.8	2493.6	2495.1	2497.9	2499.5	2499.9	2497.5	2493.2	2487.6
4.5°	2478.5	2480.4	2486.4	2492.0	2494.0	2496.3	2498.7	2498.7	2496.3	2491.6	2485.2
5°	2474.9	2477.3	2483.6	2490.0	2492.0	2495.1	2497.1	2497.1	2494.4	2489.6	2482.0
5.5°	2471.3	2473.7	2480.8	2488.0	2490.0	2493.2	2495.5	2495.5	2492.8	2487.6	2479.2
6°	2467.3	2470.1	2478.1	2485.6	2487.6	2490.8	2493.6	2493.6	2490.4	2484.8	2476.1
6.5°	2463.0	2466.1	2474.9	2483.2	2484.8	2488.8	2491.2	2491.2	2487.6	2482.0	2472.5
7°	2457.8	2461.4	2471.3	2480.4	2481.6	2486.0	2488.8	2488.8	2485.2	2479.2	2468.5
7.5°	2452.6	2456.6	2467.3	2477.3	2478.5	2483.2	2486.0	2485.6	2482.0	2475.7	2464.5
8°	2447.4	2451.8	2462.6	2473.7	2474.9	2480.0	2482.8	2482.4	2478.9	2472.1	2460.2
8.5°	2441.5	2445.9	2458.6	2470.1	2471.3	2476.5	2479.2	2479.2	2475.3	2468.1	2455.4
9°	2435.5	2440.3	2453.8	2466.1	2467.3	2472.9	2475.7	2475.7	2471.3	2464.1	2450.6
9.5°	2429.2	2434.3	2448.6	2461.4	2463.0	2468.9	2471.7	2471.3	2466.9	2459.4	2445.5
10°	2422.4	2428.4	2443.1	2457.0	2458.2	2464.1	2467.7	2467.3	2462.6	2454.6	2439.9
10.5°	2415.3	2421.6	2437.5	2451.8	2453.0	2459.4	2463.0	2462.6	2457.8	2449.8	2433.9
11°	2408.1	2414.5	2431.5	2446.7	2447.8	2454.2	2458.2	2457.8	2453.0	2444.3	2427.6
11.5°	2400.5	2407.3	2425.2	2441.1	2441.9	2449.0	2453.0	2452.2	2447.4	2438.7	2421.2
12°	2392.2	2399.7	2418.4	2435.1	2435.9	2443.9	2447.8	2446.7	2441.5	2432.7	2414.5
12.5°	2383.8	2391.8	2411.3	2428.8	2429.6	2437.9	2441.9	2440.7	2435.5	2426.4	2407.3
13°	2375.1	2383.8	2404.1	2422.8	2423.2	2431.2	2435.9	2434.7	2429.2	2420.0	2400.1
13.5°	2366.4	2375.1	2397.0	2415.6	2416.4	2425.2	2429.6	2428.0	2422.4	2412.9	2392.2
14°	2357.2	2366.0	2388.6	2408.9	2409.3	2418.0	2422.8	2421.2	2415.3	2405.3	2384.2
14.5°	2347.3	2356.4	2380.7	2401.3	2401.7	2410.5	2415.6	2414.5	2408.1	2397.8	2375.9
15°	2336.9	2346.9	2371.9	2393.8	2393.8	2403.3	2408.5	2406.5	2400.5	2390.2	2367.2
15.5°	2326.2	2336.9	2363.2	2385.8	2385.8	2395.8	2400.9	2399.0	2392.2	2381.9	2358.0
16°	2315.5	2326.6	2353.6	2377.5	2377.1	2387.0	2393.0	2390.6	2383.8	2373.5	2348.9
16.5°	2303.9	2315.9	2344.1	2368.3	2367.9	2378.7	2384.6	2382.3	2375.1	2364.4	2338.9
17°	2292.4	2304.7	2334.6	2359.6	2358.8	2369.5	2375.9	2373.9	2366.4	2355.2	2329.0
17.5°	2280.1	2293.2	2324.2	2350.5	2349.3	2360.8	2366.8	2364.8	2356.4	2345.7	2318.7
18°	2268.2	2281.7	2313.5	2340.5	2339.3	2351.3	2357.2	2354.8	2346.5	2335.7	2307.9
18.5°	2255.1	2269.0	2302.8	2330.6	2329.4	2340.9	2347.7	2344.9	2336.9	2325.8	2296.8
19°	2242.3	2256.6	2291.2	2320.6	2318.7	2330.2	2337.7	2334.6	2326.6	2315.1	2285.7
19.5°	2228.8	2243.5	2279.7	2309.5	2307.9	2320.6	2327.4	2323.8	2316.3	2303.9	2274.1
20°	2215.3	2230.8	2267.8	2298.4	2296.8	2309.1	2316.3	2313.5	2305.1	2292.8	2261.8
20.5°	2201.8	2217.3	2255.1	2286.9	2285.3	2298.0	2305.5	2302.0	2293.6	2281.3	2249.1
21°	2187.9	2203.4	2242.3	2275.3	2273.3	2286.5	2294.0	2290.4	2282.1	2269.8	2236.8



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2143.4	2160.4	2202.2	2238.0	2237.2	2250.3	2257.4	2254.7	2245.9	2232.4	2196.6
23°	2128.3	2145.7	2187.5	2225.6	2224.1	2237.6	2244.7	2241.9	2233.2	2219.3	2182.3
23.5°	2113.1	2130.2	2172.8	2212.5	2210.9	2224.8	2231.6	2228.8	2220.9	2205.8	2167.6
24°	2096.8	2114.7	2158.1	2199.0	2197.8	2211.7	2218.1	2215.7	2207.8	2192.2	2152.9
24.5°	2082.9	2099.6	2143.0	2185.5	2184.3	2198.2	2203.8	2202.2	2193.8	2178.7	2137.8
25°	2068.2	2083.7	2127.1	2171.2	2172.8	2184.7	2189.5	2188.3	2179.1	2164.8	2121.9
25.5°	2044.4	2067.8	2111.2	2156.9	2156.9	2170.8	2175.2	2174.8	2165.6	2150.5	2106.4
26°	2018.1	2052.3	2094.9	2142.6	2135.4	2156.1	2160.1	2160.4	2152.1	2135.8	2089.7
26.5°	1993.5	2037.6	2078.6	2127.9	2117.1	2142.2	2144.9	2145.3	2127.9	2120.7	2073.4
27°	1956.5	2018.9	2061.9	2112.4	2096.1	2129.0	2129.4	2130.2	2109.2	2104.8	2056.7
27.5°	1917.6	1990.3	2044.8	2098.8	2072.2	2110.8	2113.9	2116.3	2088.5	2090.5	2039.6
28°	1879.0	1967.3	2027.3	2083.7	2045.6	2088.9	2097.2	2096.5	2064.6	2072.6	2022.1
28.5°	1841.6	1935.9	2009.8	2061.1	2018.1	2070.6	2081.3	2073.4	2039.2	2049.1	2005.0
29°	1805.5	1898.5	1992.3	2040.8	1988.3	2048.0	2065.0	2055.1	2011.4	2029.7	1986.7
29.5°	1770.5	1860.7	1974.8	2020.5	1956.5	2023.3	2048.4	2032.8	1982.0	2008.2	1969.2
30°	1735.5	1823.0	1956.5	1997.1	1921.5	1997.5	2031.3	2007.8	1950.2	1984.0	1951.0
30.5°	1701.3	1786.0	1938.6	1971.6	1884.2	1970.0	2014.6	1982.0	1916.4	1957.7	1932.7
31°	1667.1	1749.8	1920.4	1943.8	1845.6	1939.8	1997.5	1954.5	1879.8	1930.7	1914.4
31.5°	1632.2	1715.6	1901.7	1915.6	1805.1	1909.6	1980.0	1924.7	1840.1	1901.3	1896.1
32°	1594.0	1681.1	1883.8	1885.0	1764.1	1876.2	1962.1	1892.9	1799.1	1870.7	1877.4
32.5°	1557.0	1647.7	1864.7	1852.8	1722.4	1839.7	1944.6	1859.9	1758.2	1836.9	1858.3
33°	1516.9	1613.1	1847.2	1817.0	1681.1	1801.9	1926.3	1823.8	1717.2	1801.9	1839.7
33.5°	1474.7	1578.5	1830.1	1782.0	1640.5	1762.5	1909.2	1786.0	1675.1	1764.1	1821.0
34°	1430.6	1541.5	1812.6	1743.9	1600.8	1722.4	1892.1	1746.6	1633.8	1725.6	1804.7
34.5°	1389.3	1504.2	1784.8	1703.7	1561.8	1682.2	1869.9	1706.1	1594.4	1685.8	1783.6
35°	1346.8	1465.2	1753.4	1663.6	1523.2	1642.1	1841.3	1664.8	1556.2	1644.5	1752.2
35.5°	1306.6	1424.3	1726.4	1623.8	1485.1	1602.3	1816.2	1625.8	1518.9	1604.7	1723.6
36°	1266.9	1382.1	1692.2	1584.5	1446.9	1563.8	1791.2	1586.1	1480.3	1565.8	1697.4
36.5°	1229.5	1340.4	1653.2	1545.5	1408.0	1525.2	1761.0	1547.1	1441.0	1526.8	1662.4
37°	1191.7	1299.4	1613.5	1506.2	1368.2	1487.1	1729.9	1508.5	1403.6	1488.7	1623.0
37.5°	1155.2	1261.7	1572.1	1468.8	1327.7	1450.5	1697.0	1471.6	1363.4	1452.1	1583.3
38°	1118.6	1221.9	1531.6	1431.4	1286.3	1411.9	1662.0	1433.8	1322.5	1414.7	1542.7
38.5°	1081.6	1185.4	1490.7	1394.5	1245.4	1374.6	1626.6	1397.6	1280.4	1378.6	1500.6
39°	1043.5	1149.2	1450.5	1357.5	1205.2	1336.8	1587.6	1359.1	1239.0	1341.6	1459.6
39.5°	1004.9	1113.8	1410.0	1319.7	1164.3	1297.5	1547.5	1320.9	1198.5	1304.6	1417.1
40°	965.9	1076.4	1367.8	1282.8	1123.4	1258.5	1505.4	1281.2	1157.1	1266.5	1374.6
40.5°	927.8	1041.5	1325.7	1244.6	1084.0	1218.8	1462.0	1241.8	1117.4	1227.1	1330.9
41°	890.4	1004.9	1282.8	1205.6	1046.6	1178.6	1416.3	1201.3	1078.0	1187.8	1287.9
41.5°	854.6	968.7	1240.6	1167.1	1008.1	1140.0	1369.8	1161.5	1041.1	1148.8	1245.0
42°	818.9	931.8	1197.3	1128.1	970.7	1101.9	1322.9	1122.2	1002.9	1110.2	1201.7
42.5°	785.5	895.6	1154.0	1090.0	933.3	1063.7	1276.4	1082.8	965.9	1072.9	1159.1
43°	752.5	859.4	1110.2	1052.2	896.0	1026.0	1231.5	1045.4	929.8	1035.5	1117.8
43.5°	720.3	824.4	1066.9	1016.0	859.4	989.4	1186.6	1008.5	892.4	999.7	1073.7



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	626.9	725.8	943.3	909.1	752.5	882.5	1058.6	900.4	782.7	894.8	952.8
45.5°	597.9	694.8	903.9	874.9	717.5	845.9	1019.2	865.8	748.1	861.8	913.5
46°	570.0	664.2	867.0	840.7	684.1	811.7	980.6	830.0	713.5	826.8	876.1
46.5°	543.4	634.4	831.2	806.9	651.1	778.3	941.3	795.0	680.5	792.6	839.1
47°	517.6	605.4	796.6	773.5	620.1	744.1	903.9	760.0	648.7	759.2	804.2
47.5°	494.5	577.2	762.8	740.6	589.9	711.5	866.6	725.8	618.1	726.6	769.6
48°	473.0	550.1	729.0	708.0	560.9	679.3	828.8	693.6	588.3	694.4	735.4
48.5°	453.6	523.9	696.4	675.4	533.9	647.1	793.4	661.8	560.5	663.4	702.4
49°	435.7	499.3	665.4	644.8	507.2	616.9	756.5	631.2	532.7	633.2	670.6
49.5°	418.6	476.6	635.2	615.3	482.2	586.3	721.1	600.2	506.8	604.6	640.0
50°	403.1	454.7	605.4	586.7	457.9	558.1	687.3	572.0	481.4	576.0	610.6
50.5°	389.2	434.9	576.4	558.9	434.5	529.9	653.9	543.4	457.1	549.0	581.2
51°	376.0	417.0	549.0	533.1	412.6	503.6	622.5	516.8	434.5	522.7	554.1
51.5°	363.3	400.3	522.7	506.8	392.7	478.6	591.9	491.3	413.4	498.1	527.9
52°	351.4	385.6	497.7	482.6	373.7	454.7	562.9	467.5	393.5	474.2	502.8
52.5°	339.5	371.3	474.6	458.3	357.8	431.3	533.9	442.8	374.5	450.4	479.0
53°	328.3	358.2	452.0	435.3	341.9	409.4	507.6	420.2	357.4	428.9	455.9
53.5°	316.4	345.8	430.9	412.6	326.0	388.4	481.4	399.5	342.3	407.4	434.5
54°	305.3	334.3	410.2	391.9	310.1	368.9	457.1	379.6	327.5	387.2	413.8
54.5°	294.6	322.8	391.5	372.1	294.6	353.0	433.3	360.5	312.4	368.1	395.1
55°	284.6	311.6	373.7	353.4	281.0	336.7	411.8	344.6	297.7	352.6	377.2
55.5°	275.9	300.5	357.0	336.7	270.3	320.8	390.0	329.1	284.2	337.1	359.7
56°	269.5	289.8	341.1	320.4	262.0	304.5	369.7	313.6	272.7	321.6	345.4
56.5°	264.7	279.0	326.4	305.7	256.8	288.6	353.4	298.1	263.1	306.5	330.7
57°	260.4	269.9	312.8	291.8	252.0	275.1	336.7	284.2	256.8	291.0	316.0
57.5°	255.6	261.6	299.7	278.7	247.6	263.1	320.4	271.5	252.0	277.9	301.7
58°	251.2	256.0	288.2	266.3	243.3	253.6	304.1	260.8	247.6	265.9	290.2
58.5°	246.9	251.2	277.9	256.4	238.9	247.6	287.4	251.6	243.3	256.4	279.0
59°	242.1	246.5	267.9	250.0	234.1	242.5	275.1	245.7	238.5	248.8	268.7
59.5°	237.3	242.1	259.2	244.9	229.8	238.1	263.9	240.5	234.1	243.7	259.6
60°	232.5	237.7	250.8	240.1	225.4	233.7	254.0	236.1	229.4	238.9	250.8
60.5°	227.4	232.9	243.3	235.7	221.0	229.0	245.3	231.3	225.0	234.5	242.9
61°	223.0	228.2	236.1	231.0	216.6	224.6	237.7	227.0	220.2	230.2	235.7
61.5°	218.2	223.4	229.4	226.2	212.3	220.2	230.2	222.6	215.4	225.4	229.0
62°	213.5	218.6	223.4	221.8	208.3	215.8	223.4	217.8	211.1	221.0	222.6
62.5°	208.3	213.5	217.0	217.4	203.9	211.5	217.0	213.1	206.7	216.2	216.2
63°	203.9	208.7	211.5	213.1	199.5	206.7	211.1	208.7	201.9	211.5	210.7
63.5°	199.2	203.9	205.9	208.3	195.2	202.3	205.5	203.9	197.6	207.1	205.5
64°	194.4	199.2	201.1	203.9	191.2	198.0	199.9	199.2	193.2	202.3	200.3
64.5°	189.6	194.8	196.4	199.5	186.8	193.6	195.2	194.8	188.4	197.6	195.6
65°	185.2	189.6	192.0	195.2	182.9	189.6	190.8	190.0	184.0	193.2	190.8
65.5°	180.5	184.8	187.6	190.8	178.5	185.2	186.0	185.6	179.7	188.4	186.4
66°	175.7	180.5	182.9	186.4	174.5	180.9	181.7	180.9	175.3	184.0	182.1





TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	161.8	166.2	169.3	173.3	162.2	168.1	168.5	167.4	162.2	170.5	168.9
68°	157.4	161.4	165.0	168.9	158.2	163.8	163.8	163.0	157.8	166.2	164.6
68.5°	152.6	156.6	160.2	164.6	153.8	159.8	159.4	158.6	153.4	161.4	160.2
69°	148.3	152.2	155.8	160.2	149.9	155.4	155.0	154.2	149.1	157.0	155.4
69.5°	142.7	147.5	151.1	156.2	145.9	151.1	150.7	149.5	144.7	152.6	151.1
70°	138.3	144.3	146.7	151.8	141.9	147.1	145.9	145.1	140.3	148.3	146.7
70.5°	134.4	139.5	141.9	147.5	137.9	143.1	141.5	140.7	136.3	143.9	142.3
71°	130.0	134.8	137.5	143.9	134.0	138.7	137.1	136.3	132.0	139.5	137.9
71.5°	126.0	129.6	133.2	139.5	130.0	134.4	132.8	132.0	127.6	134.8	133.6
72°	121.2	124.8	128.8	135.5	126.0	130.4	128.4	127.6	123.2	130.4	129.2
72.5°	116.9	120.0	124.4	131.2	122.0	126.4	124.0	123.2	119.3	126.0	124.8
73°	112.1	115.7	120.0	127.2	117.7	122.4	119.6	118.9	114.9	121.6	120.4
73.5°	107.7	110.9	115.7	122.8	113.7	118.1	115.7	114.5	110.5	117.3	116.1
74°	103.0	106.5	111.3	118.9	110.1	114.1	111.3	110.1	106.5	112.9	111.7
74.5°	98.6	101.8	106.5	114.5	106.1	110.1	106.9	105.7	102.2	108.5	107.7
75°	94.2	97.0	102.2	110.5	101.8	105.7	103.0	101.4	97.8	104.1	103.4
75.5°	89.8	92.6	97.8	106.1	97.8	101.8	98.6	97.0	93.8	99.8	99.0
76°	85.1	87.8	93.4	102.2	93.8	97.8	94.2	92.6	89.4	95.4	94.6
76.5°	80.7	83.5	89.0	98.2	90.2	93.8	90.2	88.2	85.5	91.4	90.2
77°	76.3	78.7	84.7	93.8	86.3	89.8	86.3	83.9	81.1	87.1	85.9
77.5°	71.9	74.3	80.3	89.8	82.3	85.9	82.3	79.5	77.1	82.7	81.9
78°	67.6	69.6	76.3	85.5	78.3	81.5	77.9	75.1	73.1	78.3	77.5
78.5°	63.2	65.2	71.9	81.5	74.3	77.5	73.9	70.8	68.8	73.9	73.1
79°	58.8	60.4	68.0	77.1	70.8	73.5	70.0	66.4	64.8	69.6	69.2
79.5°	54.5	56.0	63.6	73.1	66.8	69.6	66.0	62.0	60.8	65.6	65.2
80°	50.1	51.7	59.6	69.2	63.2	65.6	62.0	58.0	56.8	61.2	61.2
80.5°	46.1	47.3	55.7	64.8	59.2	61.6	58.4	53.7	52.9	56.8	56.8
81°	41.7	42.5	51.7	60.8	55.7	57.6	54.5	49.7	48.9	52.5	53.3
81.5°	37.4	38.2	47.7	56.8	51.7	54.1	50.9	46.1	44.9	48.5	49.3
82°	33.0	34.2	43.7	52.9	48.1	50.1	46.9	42.1	40.5	44.1	45.3
82.5°	29.0	30.2	40.1	49.3	44.5	46.5	43.3	38.6	36.6	39.8	41.7
83°	24.6	26.6	36.6	45.3	40.9	42.5	39.8	35.0	33.0	36.2	38.2
83.5°	20.3	22.7	33.0	41.7	37.0	39.0	36.6	31.4	29.0	32.2	35.0
84°	16.3	19.5	29.4	37.8	33.4	35.0	33.0	27.8	25.0	28.2	31.8
84.5°	14.3	16.3	26.2	34.2	29.8	31.4	29.8	24.6	21.1	24.6	28.6
85°	12.3	13.9	23.1	30.2	25.8	27.8	26.2	21.1	17.1	20.7	25.4
85.5°	9.9	11.5	19.5	26.6	22.3	23.9	23.1	17.9	14.3	17.5	21.9
86°	8.0	9.5	16.3	22.7	18.7	20.3	19.9	15.5	11.9	15.1	19.1
86.5°	6.0	7.6	13.5	19.1	15.1	16.7	16.7	13.1	10.3	13.1	15.9
87°	4.4	5.2	10.3	15.5	11.5	13.1	13.5	10.7	8.7	11.1	12.7
87.5°	2.4	3.2	7.6	11.9	8.0	9.5	10.3	8.3	6.8	8.7	9.5
88°	0.8	1.2	4.4	8.7	4.8	6.0	7.2	6.4	5.2	6.8	6.8
88.5°	0.0	0.4	1.6	5.2	1.6	2.8	4.0	4.0	3.6	4.8	3.6



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-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	0.4	0.0	0.0	0.0	0.4	0.4	0.0	0.4	0.4



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2497.5	2497.5	2497.5	2497.5	2497.5	2497.5
0.5°	2494.8	2496.7	2496.7	2497.1	2497.5	2497.1
1°	2494.0	2495.5	2495.1	2495.5	2496.3	2495.9
1.5°	2492.4	2494.0	2493.2	2493.6	2494.4	2494.0
2°	2490.8	2492.4	2491.2	2491.2	2492.0	2492.0
2.5°	2488.8	2490.4	2488.8	2488.8	2489.6	2490.0
3°	2486.4	2488.0	2486.0	2486.0	2486.8	2487.2
3.5°	2483.6	2485.6	2483.6	2483.2	2484.0	2484.8
4°	2480.8	2482.4	2480.4	2480.0	2480.8	2482.0
4.5°	2477.7	2479.6	2476.9	2476.5	2477.3	2478.5
5°	2474.1	2476.1	2472.9	2472.9	2473.7	2474.9
5.5°	2470.5	2472.5	2468.9	2468.5	2469.7	2471.3
6°	2466.5	2468.1	2464.5	2464.1	2465.3	2467.3
6.5°	2462.2	2463.7	2460.2	2459.8	2460.6	2463.0
7°	2457.4	2459.0	2455.0	2454.6	2455.8	2457.8
7.5°	2452.2	2454.2	2449.8	2449.4	2450.2	2452.6
8°	2447.1	2448.6	2444.3	2443.9	2445.1	2447.4
8.5°	2441.5	2443.1	2438.3	2437.9	2439.1	2441.5
9°	2435.9	2437.1	2432.3	2431.5	2432.7	2435.5
9.5°	2429.6	2430.8	2426.0	2425.2	2426.4	2429.2
10°	2422.8	2424.8	2419.2	2418.0	2419.6	2422.4
10.5°	2416.0	2418.0	2412.1	2411.3	2412.1	2415.3
11°	2408.9	2410.5	2404.9	2403.7	2404.9	2408.1
11.5°	2401.7	2402.9	2397.0	2395.8	2397.4	2400.5
12°	2393.8	2395.4	2389.0	2387.8	2389.0	2392.2
12.5°	2385.8	2387.0	2380.7	2379.5	2380.3	2383.8
13°	2377.5	2378.7	2371.9	2370.7	2371.9	2375.1
13.5°	2368.3	2369.9	2363.2	2362.0	2362.8	2366.4
14°	2359.6	2360.8	2353.6	2352.4	2353.6	2357.2
14.5°	2350.1	2351.3	2344.1	2342.5	2343.3	2347.3
15°	2340.5	2341.3	2334.2	2332.6	2333.0	2336.9
15.5°	2330.2	2331.0	2323.4	2322.2	2322.2	2326.2
16°	2319.8	2320.6	2312.7	2311.5	2311.9	2315.5
16.5°	2308.7	2309.9	2302.0	2300.4	2300.8	2303.9
17°	2297.6	2298.4	2290.8	2289.2	2289.2	2292.4
17.5°	2286.1	2286.9	2278.9	2277.3	2276.9	2280.1
18°	2274.5	2274.5	2267.0	2265.4	2265.0	2268.2
18.5°	2261.8	2262.2	2254.3	2253.5	2252.3	2255.1
19°	2249.5	2249.9	2241.5	2240.3	2239.2	2242.3
19.5°	2236.8	2236.8	2228.4	2227.6	2226.0	2228.8
20°	2223.3	2223.7	2214.9	2214.1	2212.1	2215.3
20.5°	2209.7	2210.1	2201.4	2199.8	2198.2	2201.8
21°	2195.8	2196.2	2187.1	2186.3	2183.9	2187.9

TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2152.5	2153.3	2143.0	2141.0	2139.4	2143.4
23°	2137.4	2138.2	2127.9	2125.9	2124.3	2128.3
23.5°	2122.7	2122.7	2112.7	2109.2	2108.8	2113.1
24°	2107.2	2107.6	2096.8	2093.3	2092.9	2096.8
24.5°	2091.3	2091.7	2080.6	2076.6	2076.6	2082.9
25°	2075.0	2076.6	2064.6	2059.9	2059.9	2068.2
25.5°	2059.1	2062.7	2048.0	2042.0	2044.0	2044.4
26°	2043.2	2044.0	2031.3	2025.7	2026.9	2018.1
26.5°	2028.9	2015.8	2015.0	2007.0	2012.2	1993.5
27°	2012.6	1993.9	2000.3	1989.9	1996.3	1956.5
27.5°	1986.7	1962.9	1982.8	1971.2	1971.2	1917.6
28°	1960.9	1925.5	1956.5	1953.0	1945.4	1879.0
28.5°	1936.3	1887.8	1931.1	1934.3	1919.6	1841.6
29°	1902.1	1850.8	1906.4	1916.0	1884.2	1805.5
29.5°	1865.1	1813.8	1871.5	1896.1	1846.8	1770.5
30°	1828.1	1778.4	1835.7	1877.8	1808.3	1735.5
30.5°	1792.0	1741.9	1797.5	1858.7	1772.1	1701.3
31°	1756.6	1706.9	1762.1	1839.7	1735.9	1667.1
31.5°	1720.4	1671.5	1725.6	1820.2	1700.5	1632.2
32°	1685.4	1635.7	1691.0	1800.7	1666.7	1594.0
32.5°	1650.4	1598.4	1656.8	1781.6	1634.2	1557.0
33°	1615.9	1560.6	1622.2	1763.3	1600.4	1516.9
33.5°	1580.5	1521.3	1587.6	1747.0	1567.8	1474.7
34°	1543.5	1480.7	1553.5	1729.2	1533.2	1430.6
34.5°	1506.6	1439.8	1517.3	1699.7	1497.8	1389.3
35°	1468.8	1398.0	1480.3	1664.8	1459.6	1346.8
35.5°	1429.4	1356.3	1442.9	1638.5	1422.3	1306.6
36°	1389.7	1316.5	1403.6	1600.8	1381.7	1266.9
36.5°	1349.1	1276.4	1365.0	1553.9	1342.4	1229.5
37°	1309.4	1238.6	1325.3	1506.9	1301.0	1191.7
37.5°	1270.0	1200.5	1286.3	1460.4	1262.5	1155.2
38°	1231.9	1163.1	1247.0	1414.3	1224.3	1118.6
38.5°	1194.9	1126.1	1210.4	1370.2	1187.8	1081.6
39°	1157.1	1090.0	1173.0	1327.3	1152.0	1043.5
39.5°	1121.0	1051.8	1138.5	1285.9	1117.0	1004.9
40°	1085.6	1013.6	1102.7	1246.2	1082.8	965.9
40.5°	1051.0	976.7	1067.3	1208.0	1048.6	927.8
41°	1014.4	938.9	1032.3	1170.7	1014.0	890.4
41.5°	978.7	901.9	997.7	1133.3	978.3	854.6
42°	942.5	865.8	962.0	1096.7	942.9	818.9
42.5°	907.5	830.8	926.2	1061.3	907.9	785.5
43°	871.7	796.2	891.2	1024.8	872.5	752.5
43.5°	836.4	762.8	855.8	987.4	837.9	720.3



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	737.8	667.4	756.1	875.7	740.2	626.9
45.5°	707.6	637.2	725.4	840.3	709.9	597.9
46°	676.2	607.4	694.8	806.1	679.7	570.0
46.5°	646.3	578.4	664.2	772.4	650.3	543.4
47°	617.3	550.9	635.2	740.6	621.7	517.6
47.5°	589.1	523.9	605.4	710.3	593.9	494.5
48°	560.9	500.1	577.2	681.7	566.4	473.0
48.5°	534.6	476.2	550.5	654.3	540.2	453.6
49°	508.4	455.1	524.7	626.9	515.2	435.7
49.5°	484.6	435.7	500.1	601.0	491.7	418.6
50°	460.7	417.4	476.6	575.6	469.9	403.1
50.5°	439.6	400.7	455.1	550.9	449.2	389.2
51°	419.8	386.0	434.5	527.1	430.5	376.0
51.5°	401.5	372.1	416.6	503.6	413.0	363.3
52°	384.8	359.3	400.3	481.4	397.1	351.4
52.5°	369.7	347.0	384.4	459.9	382.4	339.5
53°	355.8	335.1	370.1	439.6	368.5	328.3
53.5°	343.8	323.6	356.6	420.2	355.4	316.4
54°	332.3	312.0	343.4	401.9	343.0	305.3
54.5°	320.8	301.3	332.3	384.4	331.1	294.6
55°	308.9	290.6	320.4	368.1	320.4	284.6
55.5°	297.3	280.2	308.9	352.6	308.9	275.9
56°	287.0	271.5	298.1	338.3	298.1	269.5
56.5°	276.3	264.3	287.4	324.8	287.4	264.7
57°	266.7	258.8	277.1	311.6	277.5	260.4
57.5°	258.4	254.4	267.5	299.7	268.3	255.6
58°	251.2	249.6	259.6	288.6	260.8	251.2
58.5°	246.1	245.3	253.2	278.3	254.8	246.9
59°	241.7	240.9	248.4	268.7	250.4	242.1
59.5°	237.3	236.9	243.7	259.2	245.7	237.3
60°	232.9	232.1	239.3	251.2	241.3	232.5
60.5°	228.6	228.2	234.9	243.7	236.1	227.4
61°	223.8	223.8	230.2	236.5	231.7	223.0
61.5°	219.4	219.4	225.8	229.8	227.0	218.2
62°	215.1	215.1	221.4	223.4	222.2	213.5
62.5°	210.7	210.7	216.6	217.4	217.0	208.3
63°	206.3	206.7	212.3	211.9	212.3	203.9
63.5°	201.9	202.3	207.9	206.7	207.5	199.2
64°	197.6	198.4	203.5	201.5	202.7	194.4
64.5°	193.2	194.0	198.8	197.2	198.0	189.6
65°	189.2	189.6	194.8	192.8	193.2	185.2
65.5°	184.8	185.6	190.4	188.0	188.4	180.5
66°	180.5	181.3	185.6	183.6	183.6	175.7



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	167.7	168.9	172.9	170.5	169.3	161.8
68°	163.4	165.0	168.5	165.8	164.6	157.4
68.5°	159.4	160.6	164.2	161.0	159.8	152.6
69°	155.0	156.6	159.8	156.6	155.4	148.3
69.5°	150.7	152.6	155.4	151.8	150.7	142.7
70°	146.7	148.7	151.1	147.5	145.9	138.3
70.5°	142.3	143.9	147.1	143.5	141.5	134.4
71°	138.3	139.9	144.3	139.1	136.7	130.0
71.5°	134.0	136.3	139.9	134.4	132.4	126.0
72°	130.0	132.4	135.2	130.0	128.0	121.2
72.5°	125.6	128.4	130.8	125.6	123.2	116.9
73°	121.6	124.8	126.4	121.2	118.5	112.1
73.5°	117.7	120.4	122.0	116.5	114.1	107.7
74°	113.3	116.5	118.1	112.1	109.3	103.0
74.5°	109.3	112.5	113.7	107.7	104.5	98.6
75°	104.9	108.5	109.3	103.4	100.2	94.2
75.5°	101.0	104.5	105.3	99.0	95.4	89.8
76°	96.6	100.6	101.0	94.2	91.0	85.1
76.5°	92.6	96.2	97.0	89.8	86.3	80.7
77°	88.6	92.2	92.6	85.9	81.5	76.3
77.5°	84.3	88.2	88.6	81.5	77.1	71.9
78°	80.3	84.3	84.3	77.1	72.3	67.6
78.5°	75.9	80.3	80.3	72.7	68.0	63.2
79°	71.9	76.3	75.9	68.8	63.2	58.8
79.5°	68.0	72.3	71.9	64.4	58.8	54.5
80°	63.6	68.4	67.6	60.4	54.1	50.1
80.5°	59.6	64.4	63.6	56.4	49.7	46.1
81°	55.7	60.8	59.6	52.5	45.3	41.7
81.5°	52.1	56.8	55.7	48.5	41.3	37.4
82°	48.1	52.9	51.7	44.5	37.0	33.0
82.5°	44.1	49.3	47.7	40.9	33.4	29.0
83°	40.5	45.3	43.7	37.4	29.4	24.6
83.5°	36.6	41.3	39.8	33.8	25.8	20.3
84°	33.0	37.8	35.8	30.2	22.3	16.3
84.5°	29.0	34.2	32.2	27.0	19.1	14.3
85°	25.4	30.2	28.2	23.5	16.3	12.3
85.5°	21.5	26.6	24.2	20.3	13.9	9.9
86°	17.9	22.7	20.3	16.7	11.5	8.0
86.5°	13.9	19.1	16.7	13.5	9.1	6.0
87°	10.3	15.1	13.1	10.3	6.8	4.4
87.5°	6.8	11.9	9.9	7.6	4.4	2.4
88°	3.6	8.3	6.8	4.4	2.0	0.8
88.5°	1.2	4.8	3.6	1.2	0.8	0.0



TEST NUMBER: P776332

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMW-4000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.4	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°	2173.2	2189.1	2229.2	2263.4	2261.4	2274.5	2282.5	2278.9	2270.6	2257.0	2224.1
22°	2158.1	2174.8	2215.7	2250.7	2249.5	2262.2	2270.2	2267.0	2258.6	2245.1	2210.1



44°	688.9	789.4	1024.0	978.7	822.8	952.8	1141.6	971.9	854.6	963.2	1031.9
44.5°	657.5	757.6	983.4	943.3	787.5	917.4	1100.3	936.9	818.9	929.8	991.4



66.5°	171.3	175.7	178.5	182.1	170.1	176.5	177.3	176.5	170.9	179.7	177.7
67°	166.6	170.9	174.1	177.7	166.2	172.1	172.9	172.1	166.6	174.9	173.3



89°	0.0	0.4	0.4	2.0	0.4	0.8	1.6	2.0	2.0	2.8	1.6
89.5°	0.0	0.4	0.4	0.4	0.0	0.0	0.4	0.4	0.4	1.2	0.4



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

Scaled Data Report





21.5°	2181.9	2182.3	2172.8	2171.2	2169.2	2173.2
22°	2167.6	2167.6	2158.1	2156.5	2154.5	2158.1



44°	803.0	730.2	822.0	949.6	803.8	688.9
44.5°	770.8	698.4	789.4	912.7	772.0	657.5



66.5°	176.1	177.3	181.7	179.3	178.9	171.3
67°	172.1	173.3	177.3	174.9	174.1	166.6

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

Scaled Data Report



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

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

Scaled Data Report



(END OF REPORT)