

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: P776638

Luminaire Tested: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776638
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B006-HCD4TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD4TSQMB-5000lm-4000K
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

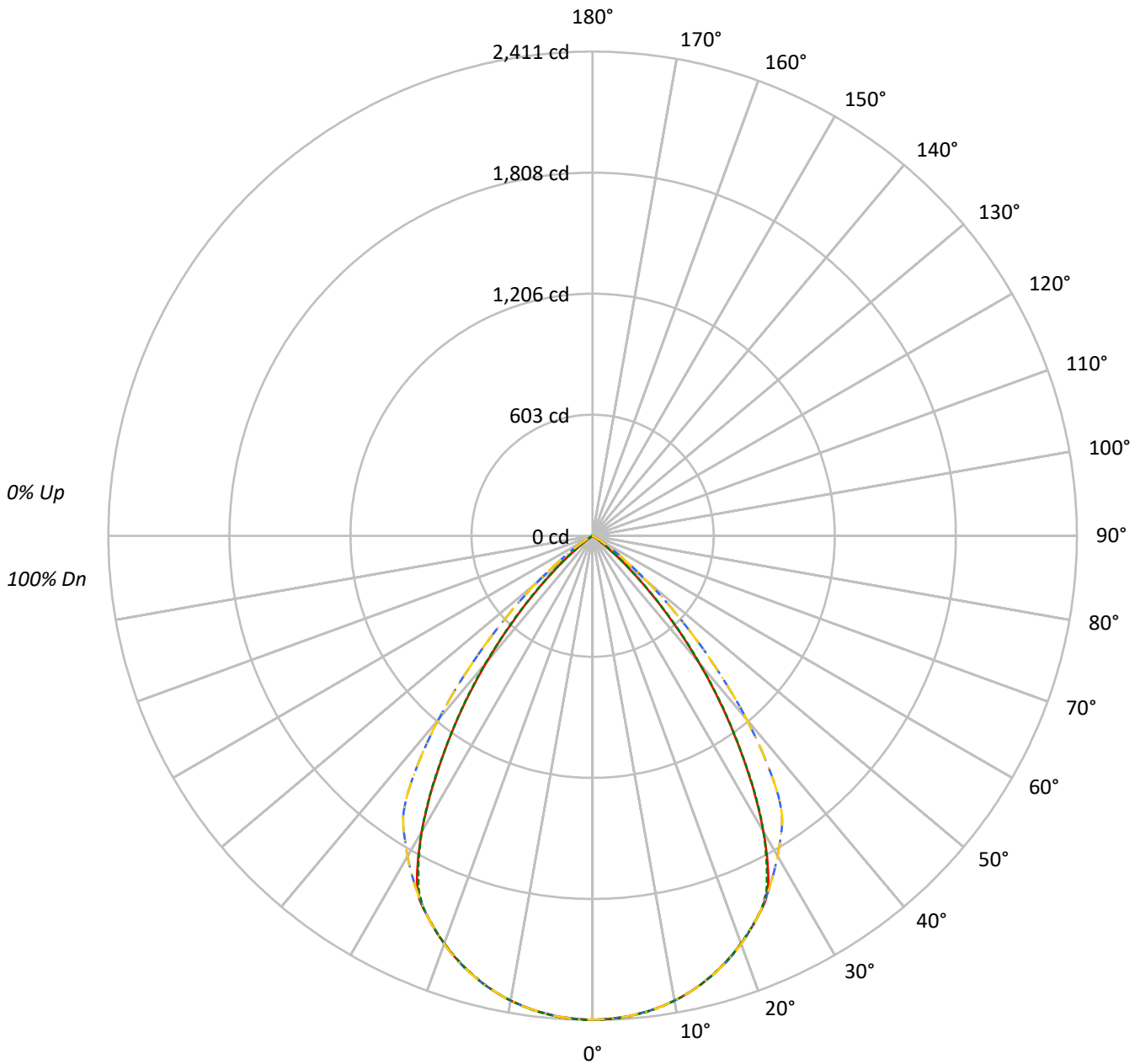
Lumens per Lamp: N/A
Luminaire Lumens: 3188.2 lumens
Efficiency: N/A
Efficacy: 66.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.14
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 48
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: P776638
CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	97	95	94	92					92			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	90	88	86	85					85			
3	100	93	88	84	98	92	87	83	89	85	81	87	83	80	84	82	79	77					77			
4	95	86	80	75	93	85	79	75	83	78	74	81	77	73	79	75	72	71					71			
5	89	80	73	68	87	79	73	68	77	72	67	75	71	67	74	70	66	65					65			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	77	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	74	64	57	53	73	63	57	53	62	56	52	61	56	52	60	55	52	50					50			
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	52	48	47					47			
10	67	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	238170	238170	238170	238170
5°	237611	237760	237611	237760
10°	235852	235943	235852	235943
15°	232491	232532	232491	232532
20°	227264	227159	227264	227159
25°	220465	219582	220465	219582
30°	194163	194118	194163	194118
35°	151638	152157	151638	152157
40°	105843	106888	105843	106888
45°	60065	61673	60065	61673
50°	23896	25649	23896	25649
55°	3550	4532	3550	4532
60°	751	751	751	751
65°	561	561	561	561
70°	405	405	405	405
75°	382	382	382	382
80°	285	285	285	285
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 101567 cd/sqm



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.2	7.1
10°-20°	639.7	20.1
20°-30°	921.4	28.9
30°-40°	869.6	27.3
40°-50°	448.3	14.1
50°-60°	78.3	2.5
60°-70°	2.8	0.1
70°-80°	0.8	0.0
80°-90°	0.1	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°	1788.3	56.1
0°-40°	2657.9	83.4
0°-60°	3184.5	99.9
0°-90°	3188.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3188.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2410	2410	2410	2410	2410	
5°	2395	2396	2395	2396	2395	227
15°	2272	2272	2272	2272	2272	640
25°	2022	2013	2022	2013	2022	914
35°	1257	1261	1257	1261	1257	780
45°	430	441	430	441	430	340
55°	21	26	21	26	21	37
65°	2	2	2	2	2	2
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6
0.5°	2409.2	2409.2	2409.2	2409.6	2411.1	2409.6	2409.2	2409.2	2409.2	2409.2	2409.2
1°	2408.7	2408.7	2408.7	2409.2	2410.6	2409.2	2408.7	2408.7	2408.7	2408.7	2408.7
1.5°	2407.7	2408.2	2408.2	2408.2	2409.6	2408.2	2408.2	2408.2	2407.7	2408.2	2408.2
2°	2406.8	2406.8	2407.2	2407.2	2408.7	2407.2	2407.2	2406.8	2406.8	2406.8	2407.2
2.5°	2405.3	2405.3	2405.8	2406.3	2407.2	2406.3	2405.8	2405.3	2405.3	2405.3	2405.8
3°	2403.9	2403.9	2404.4	2404.4	2405.8	2404.4	2404.4	2403.9	2403.9	2403.9	2404.4
3.5°	2402.0	2402.0	2402.5	2402.5	2403.9	2402.5	2402.5	2402.0	2402.0	2402.0	2402.5
4°	2400.1	2400.1	2400.1	2400.6	2401.5	2400.6	2400.1	2400.1	2400.1	2400.1	2400.1
4.5°	2397.7	2397.7	2397.7	2397.7	2399.1	2397.7	2397.7	2397.7	2397.7	2397.7	2397.7
5°	2394.8	2394.8	2394.8	2394.8	2396.3	2394.8	2394.8	2394.8	2394.8	2394.8	2394.8
5.5°	2391.5	2391.5	2392.0	2392.0	2392.9	2392.0	2392.0	2391.5	2391.5	2391.5	2392.0
6°	2388.1	2388.1	2388.1	2388.6	2389.6	2388.6	2388.1	2388.1	2388.1	2388.1	2388.1
6.5°	2384.3	2384.3	2384.8	2384.8	2385.7	2384.8	2384.8	2384.3	2384.3	2384.3	2384.8
7°	2380.5	2380.5	2380.5	2381.0	2381.9	2381.0	2380.5	2380.5	2380.5	2380.5	2380.5
7.5°	2376.2	2376.2	2376.2	2376.2	2377.6	2376.2	2376.2	2376.2	2376.2	2376.2	2376.2
8°	2371.4	2371.4	2371.9	2371.9	2372.8	2371.9	2371.9	2371.4	2371.4	2371.4	2371.9
8.5°	2366.6	2366.6	2366.6	2366.6	2367.6	2366.6	2366.6	2366.6	2366.6	2366.6	2366.6
9°	2361.4	2361.4	2361.4	2361.4	2362.3	2361.4	2361.4	2361.4	2361.4	2361.4	2361.4
9.5°	2355.6	2355.6	2355.6	2355.6	2356.6	2355.6	2355.6	2355.6	2355.6	2355.6	2355.6
10°	2349.9	2349.9	2349.9	2349.9	2350.8	2349.9	2349.9	2349.9	2349.9	2349.9	2349.9
10.5°	2343.7	2343.7	2343.7	2343.2	2344.6	2343.2	2343.7	2343.7	2343.7	2343.7	2343.7
11°	2337.0	2337.0	2337.5	2337.0	2337.9	2337.0	2337.5	2337.0	2337.0	2337.0	2337.5
11.5°	2330.3	2330.3	2330.3	2329.8	2330.8	2329.8	2330.3	2330.3	2330.3	2330.3	2330.3
12°	2323.1	2323.1	2323.1	2322.6	2323.6	2322.6	2323.1	2323.1	2323.1	2323.1	2323.1
12.5°	2315.0	2315.5	2315.5	2315.0	2315.5	2315.0	2315.5	2315.5	2315.0	2315.5	2315.5
13°	2307.3	2307.8	2307.8	2306.9	2307.8	2306.9	2307.8	2307.8	2307.3	2307.8	2307.8
13.5°	2299.2	2299.2	2299.7	2298.7	2299.7	2298.7	2299.7	2299.2	2299.2	2299.2	2299.7
14°	2290.6	2291.1	2291.1	2290.1	2290.6	2290.1	2291.1	2291.1	2290.6	2291.1	2291.1
14.5°	2281.5	2282.0	2282.5	2281.5	2281.5	2281.5	2282.5	2282.0	2281.5	2282.0	2282.5
15°	2272.0	2272.9	2272.9	2272.0	2272.4	2272.0	2272.9	2272.9	2272.0	2272.9	2272.9
15.5°	2262.4	2263.4	2263.4	2262.4	2262.4	2262.4	2263.4	2263.4	2262.4	2263.4	2263.4
16°	2252.4	2253.3	2253.8	2252.4	2252.4	2252.4	2253.8	2253.3	2252.4	2253.3	2253.8
16.5°	2242.3	2242.8	2243.8	2242.3	2241.9	2242.3	2243.8	2242.8	2242.3	2242.8	2243.8
17°	2231.8	2232.3	2233.3	2231.3	2231.3	2231.3	2233.3	2232.3	2231.8	2232.3	2233.3
17.5°	2220.3	2221.3	2222.3	2220.3	2220.3	2220.3	2222.3	2221.3	2220.3	2221.3	2222.3
18°	2209.4	2209.8	2210.8	2209.4	2208.9	2209.4	2210.8	2209.8	2209.4	2209.8	2210.8
18.5°	2197.9	2198.4	2199.3	2197.4	2196.9	2197.4	2199.3	2198.4	2197.9	2198.4	2199.3
19°	2185.5	2186.4	2187.4	2185.5	2184.5	2185.5	2187.4	2186.4	2185.5	2186.4	2187.4
19.5°	2173.5	2174.0	2174.9	2173.0	2172.5	2173.0	2174.9	2174.0	2173.5	2174.0	2174.9
20°	2160.6	2161.6	2162.5	2160.1	2159.6	2160.1	2162.5	2161.6	2160.6	2161.6	2162.5
20.5°	2148.2	2148.6	2149.6	2147.2	2146.7	2147.2	2149.6	2148.6	2148.2	2148.6	2149.6
21°	2134.8	2135.3	2136.2	2133.8	2133.3	2133.8	2136.2	2135.3	2134.8	2135.3	2136.2



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2093.7	2093.7	2094.2	2092.2	2092.2	2092.2	2094.2	2093.7	2093.7	2093.7	2094.2
23°	2079.3	2079.3	2079.3	2077.9	2077.4	2077.9	2079.3	2079.3	2079.3	2079.3	2079.3
23.5°	2065.0	2065.0	2064.0	2063.1	2063.1	2063.1	2064.0	2065.0	2065.0	2065.0	2064.0
24°	2050.2	2050.2	2048.7	2048.3	2049.2	2048.3	2048.7	2050.2	2050.2	2050.2	2048.7
24.5°	2035.4	2034.9	2033.0	2033.0	2034.4	2033.0	2033.0	2034.9	2035.4	2034.9	2033.0
25°	2021.5	2019.1	2016.7	2017.2	2013.4	2017.2	2016.7	2019.1	2021.5	2019.1	2016.7
25.5°	2005.2	2003.8	2000.5	2001.9	1993.3	2001.9	2000.5	2003.8	2005.2	2003.8	2000.5
26°	1978.0	1988.0	1983.7	1986.6	1973.2	1986.6	1983.7	1988.0	1978.0	1988.0	1983.7
26.5°	1955.1	1972.3	1967.0	1970.3	1944.1	1970.3	1967.0	1972.3	1955.1	1972.3	1967.0
27°	1927.3	1957.4	1949.8	1947.9	1910.1	1947.9	1949.8	1957.4	1927.3	1957.4	1949.8
27.5°	1892.9	1936.9	1932.1	1927.3	1879.5	1927.3	1932.1	1936.9	1892.9	1936.9	1932.1
28°	1856.6	1909.6	1914.4	1905.3	1845.6	1905.3	1914.4	1909.6	1856.6	1909.6	1914.4
28.5°	1819.8	1886.2	1896.7	1874.3	1810.2	1874.3	1896.7	1886.2	1819.8	1886.2	1896.7
29°	1781.1	1857.1	1878.6	1841.8	1775.8	1841.8	1878.6	1857.1	1781.1	1857.1	1878.6
29.5°	1741.9	1822.6	1860.4	1810.2	1738.5	1810.2	1860.4	1822.6	1741.9	1822.6	1860.4
30°	1701.2	1787.3	1841.8	1776.8	1700.8	1776.8	1841.8	1787.3	1701.2	1787.3	1841.8
30.5°	1659.6	1750.0	1823.6	1741.9	1661.6	1741.9	1823.6	1750.0	1659.6	1750.0	1823.6
31°	1616.6	1712.7	1805.0	1706.0	1621.4	1706.0	1805.0	1712.7	1616.6	1712.7	1805.0
31.5°	1573.1	1674.0	1786.3	1670.2	1577.9	1670.2	1786.3	1674.0	1573.1	1674.0	1786.3
32°	1528.7	1634.8	1767.7	1633.4	1533.4	1633.4	1767.7	1634.8	1528.7	1634.8	1767.7
32.5°	1483.3	1594.2	1749.5	1595.6	1488.5	1595.6	1749.5	1594.2	1483.3	1594.2	1749.5
33°	1437.8	1553.5	1730.9	1555.9	1444.1	1555.9	1730.9	1553.5	1437.8	1553.5	1730.9
33.5°	1392.0	1511.0	1709.4	1515.3	1395.8	1515.3	1709.4	1511.0	1392.0	1511.0	1709.4
34°	1347.0	1468.0	1686.4	1472.7	1349.9	1472.7	1686.4	1468.0	1347.0	1468.0	1686.4
34.5°	1301.6	1424.5	1659.6	1428.8	1304.5	1428.8	1659.6	1424.5	1301.6	1424.5	1659.6
35°	1256.7	1381.0	1627.1	1384.3	1261.0	1384.3	1627.1	1381.0	1256.7	1381.0	1627.1
35.5°	1212.7	1337.9	1592.2	1340.8	1216.1	1340.8	1592.2	1337.9	1212.7	1337.9	1592.2
36°	1169.2	1294.0	1553.5	1296.4	1174.0	1296.4	1553.5	1294.0	1169.2	1294.0	1553.5
36.5°	1125.2	1250.9	1511.9	1252.9	1131.0	1252.9	1511.9	1250.9	1125.2	1250.9	1511.9
37°	1081.7	1207.9	1468.0	1209.8	1088.4	1209.8	1468.0	1207.9	1081.7	1207.9	1468.0
37.5°	1037.8	1165.4	1423.5	1168.3	1045.4	1168.3	1423.5	1165.4	1037.8	1165.4	1423.5
38°	993.8	1122.8	1377.6	1126.2	1002.4	1126.2	1377.6	1122.8	993.8	1122.8	1377.6
38.5°	949.3	1081.7	1332.2	1085.6	958.4	1085.6	1332.2	1081.7	949.3	1081.7	1332.2
39°	906.3	1040.1	1286.3	1044.9	915.4	1044.9	1286.3	1040.1	906.3	1040.1	1286.3
39.5°	863.8	998.6	1240.0	1004.8	870.9	1004.8	1240.0	998.6	863.8	998.6	1240.0
40°	820.3	956.5	1192.6	963.7	828.4	963.7	1192.6	956.5	820.3	956.5	1192.6
40.5°	777.7	914.9	1144.8	922.1	785.4	922.1	1144.8	914.9	777.7	914.9	1144.8
41°	736.6	873.8	1097.0	881.0	743.8	881.0	1097.0	873.8	736.6	873.8	1097.0
41.5°	695.5	832.7	1048.7	839.9	703.1	839.9	1048.7	832.7	695.5	832.7	1048.7
42°	655.8	792.5	1000.5	798.8	664.0	798.8	1000.5	792.5	655.8	792.5	1000.5
42.5°	616.6	752.4	953.1	759.1	625.2	759.1	953.1	752.4	616.6	752.4	953.1
43°	577.9	713.2	905.8	718.9	587.0	718.9	905.8	713.2	577.9	713.2	905.8
43.5°	539.2	674.5	859.5	681.2	549.7	681.2	859.5	674.5	539.2	674.5	859.5



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	429.7	562.6	726.6	569.8	441.2	569.8	726.6	562.6	429.7	562.6	726.6
45.5°	396.3	526.8	685.0	534.9	407.3	534.9	685.0	526.8	396.3	526.8	685.0
46°	364.2	491.9	645.3	500.5	374.8	500.5	645.3	491.9	364.2	491.9	645.3
46.5°	331.7	456.5	606.1	466.1	343.7	466.1	606.1	456.5	331.7	456.5	606.1
47°	301.1	423.0	567.9	432.1	314.5	432.1	567.9	423.0	301.1	423.0	567.9
47.5°	270.6	390.5	531.1	398.7	285.8	398.7	531.1	390.5	270.6	390.5	531.1
48°	243.8	359.5	495.7	367.6	258.1	367.6	495.7	359.5	243.8	359.5	495.7
48.5°	218.0	328.9	461.8	338.0	233.3	338.0	461.8	328.9	218.0	328.9	461.8
49°	196.5	298.8	427.8	308.8	210.3	308.8	427.8	298.8	196.5	298.8	427.8
49.5°	175.9	270.6	395.3	281.1	188.3	281.1	395.3	270.6	175.9	270.6	395.3
50°	155.4	243.8	363.3	254.3	166.8	254.3	363.3	243.8	155.4	243.8	363.3
50.5°	135.8	218.4	333.6	229.4	145.8	229.4	333.6	218.4	135.8	218.4	333.6
51°	117.1	196.5	305.0	207.0	128.1	207.0	305.0	196.5	117.1	196.5	305.0
51.5°	101.8	175.4	277.7	185.0	111.4	185.0	277.7	175.4	101.8	175.4	277.7
52°	87.0	154.9	251.4	164.0	95.6	164.0	251.4	154.9	87.0	154.9	251.4
52.5°	73.1	134.8	226.6	143.9	80.8	143.9	226.6	134.8	73.1	134.8	226.6
53°	60.2	116.6	204.6	126.2	66.9	126.2	204.6	116.6	60.2	116.6	204.6
53.5°	49.7	100.4	183.1	109.9	53.5	109.9	183.1	100.4	49.7	100.4	183.1
54°	38.7	85.6	163.0	94.2	42.5	94.2	163.0	85.6	38.7	85.6	163.0
54.5°	28.2	71.7	144.4	79.3	34.4	79.3	144.4	71.7	28.2	71.7	144.4
55°	20.6	59.8	126.2	65.5	26.3	65.5	126.2	59.8	20.6	59.8	126.2
55.5°	12.9	48.8	109.9	52.6	18.2	52.6	109.9	48.8	12.9	48.8	109.9
56°	8.6	38.2	94.2	41.1	10.0	41.1	94.2	38.2	8.6	38.2	94.2
56.5°	6.7	27.7	80.8	31.5	6.2	31.5	80.8	27.7	6.7	27.7	80.8
57°	4.8	18.2	68.8	22.9	5.3	22.9	68.8	18.2	4.8	18.2	68.8
57.5°	4.8	11.5	57.8	15.3	4.8	15.3	57.8	11.5	4.8	11.5	57.8
58°	4.3	7.2	48.3	10.0	4.8	10.0	48.3	7.2	4.3	7.2	48.3
58.5°	4.3	4.8	40.2	7.2	4.3	7.2	40.2	4.8	4.3	4.8	40.2
59°	3.8	3.8	32.5	5.3	4.3	5.3	32.5	3.8	3.8	3.8	32.5
59.5°	3.8	3.8	26.3	3.8	4.3	3.8	26.3	3.8	3.8	3.8	26.3
60°	3.8	3.8	21.0	3.8	3.8	3.8	21.0	3.8	3.8	3.8	21.0
60.5°	3.3	3.3	16.3	3.8	3.8	3.8	16.3	3.3	3.3	3.3	16.3
61°	3.3	3.3	12.9	3.3	3.8	3.3	12.9	3.3	3.3	3.3	12.9
61.5°	3.3	3.3	9.6	3.3	3.3	3.3	9.6	3.3	3.3	3.3	9.6
62°	2.9	2.9	7.2	3.3	3.3	3.3	7.2	2.9	2.9	2.9	7.2
62.5°	2.9	2.9	5.3	2.9	3.3	2.9	5.3	2.9	2.9	2.9	5.3
63°	2.9	2.9	3.8	2.9	2.9	2.9	3.8	2.9	2.9	2.9	3.8
63.5°	2.9	2.4	2.9	2.9	2.9	2.9	2.9	2.4	2.9	2.4	2.9
64°	2.4	2.4	2.4	2.4	2.9	2.4	2.4	2.4	2.4	2.4	2.4
64.5°	2.4	2.4	1.9	2.4	2.9	2.4	1.9	2.4	2.4	2.4	1.9
65°	2.4	2.4	1.9	2.4	2.4	2.4	1.9	2.4	2.4	2.4	1.9
65.5°	2.4	1.9	1.9	2.4	2.4	2.4	1.9	1.9	2.4	1.9	1.9
66°	2.4	1.9	1.4	1.9	2.4	1.9	1.4	1.9	2.4	1.9	1.4



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.9	1.9	1.4	1.9	1.9	1.9	1.4	1.9	1.9	1.9	1.4
68°	1.9	1.4	1.4	1.9	1.9	1.9	1.4	1.4	1.9	1.4	1.4
68.5°	1.9	1.4	1.0	1.4	1.9	1.4	1.0	1.4	1.9	1.4	1.0
69°	1.4	1.4	1.0	1.4	1.9	1.4	1.0	1.4	1.4	1.4	1.0
69.5°	1.4	1.4	1.0	1.4	1.9	1.4	1.0	1.4	1.4	1.4	1.0
70°	1.4	1.4	1.0	1.4	1.4	1.4	1.0	1.4	1.4	1.4	1.0
70.5°	1.4	1.4	1.0	1.4	1.4	1.4	1.0	1.4	1.4	1.4	1.0
71°	1.4	1.0	1.0	1.4	1.4	1.4	1.0	1.0	1.4	1.0	1.0
71.5°	1.4	1.0	1.0	1.0	1.4	1.0	1.0	1.0	1.4	1.0	1.0
72°	1.4	1.0	1.0	1.0	1.4	1.0	1.0	1.0	1.4	1.0	1.0
72.5°	1.0	1.0	0.5	1.0	1.4	1.0	0.5	1.0	1.0	1.0	0.5
73°	1.0	1.0	0.5	1.0	1.4	1.0	0.5	1.0	1.0	1.0	0.5
73.5°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
74°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
74.5°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
75°	1.0	1.0	0.5	1.0	1.0	1.0	0.5	1.0	1.0	1.0	0.5
75.5°	1.0	0.5	0.5	1.0	1.0	1.0	0.5	0.5	1.0	0.5	0.5
76°	1.0	0.5	0.5	0.5	1.0	0.5	0.5	0.5	1.0	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
79.5°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
80°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
80.5°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
81°	0.5	0.5	0.0	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.0
81.5°	0.5	0.0	0.0	0.5	0.5	0.5	0.0	0.0	0.5	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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: P776638
CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

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	0.0	0.0



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2409.6	2409.6	2409.6	2409.6	2409.6	2409.6
0.5°	2409.6	2411.1	2409.6	2409.2	2409.2	2409.2
1°	2409.2	2410.6	2409.2	2408.7	2408.7	2408.7
1.5°	2408.2	2409.6	2408.2	2408.2	2408.2	2407.7
2°	2407.2	2408.7	2407.2	2407.2	2406.8	2406.8
2.5°	2406.3	2407.2	2406.3	2405.8	2405.3	2405.3
3°	2404.4	2405.8	2404.4	2404.4	2403.9	2403.9
3.5°	2402.5	2403.9	2402.5	2402.5	2402.0	2402.0
4°	2400.6	2401.5	2400.6	2400.1	2400.1	2400.1
4.5°	2397.7	2399.1	2397.7	2397.7	2397.7	2397.7
5°	2394.8	2396.3	2394.8	2394.8	2394.8	2394.8
5.5°	2392.0	2392.9	2392.0	2392.0	2391.5	2391.5
6°	2388.6	2389.6	2388.6	2388.1	2388.1	2388.1
6.5°	2384.8	2385.7	2384.8	2384.8	2384.3	2384.3
7°	2381.0	2381.9	2381.0	2380.5	2380.5	2380.5
7.5°	2376.2	2377.6	2376.2	2376.2	2376.2	2376.2
8°	2371.9	2372.8	2371.9	2371.9	2371.4	2371.4
8.5°	2366.6	2367.6	2366.6	2366.6	2366.6	2366.6
9°	2361.4	2362.3	2361.4	2361.4	2361.4	2361.4
9.5°	2355.6	2356.6	2355.6	2355.6	2355.6	2355.6
10°	2349.9	2350.8	2349.9	2349.9	2349.9	2349.9
10.5°	2343.2	2344.6	2343.2	2343.7	2343.7	2343.7
11°	2337.0	2337.9	2337.0	2337.5	2337.0	2337.0
11.5°	2329.8	2330.8	2329.8	2330.3	2330.3	2330.3
12°	2322.6	2323.6	2322.6	2323.1	2323.1	2323.1
12.5°	2315.0	2315.5	2315.0	2315.5	2315.5	2315.0
13°	2306.9	2307.8	2306.9	2307.8	2307.8	2307.3
13.5°	2298.7	2299.7	2298.7	2299.7	2299.2	2299.2
14°	2290.1	2290.6	2290.1	2291.1	2291.1	2290.6
14.5°	2281.5	2281.5	2281.5	2282.5	2282.0	2281.5
15°	2272.0	2272.4	2272.0	2272.9	2272.9	2272.0
15.5°	2262.4	2262.4	2262.4	2263.4	2263.4	2262.4
16°	2252.4	2252.4	2252.4	2253.8	2253.3	2252.4
16.5°	2242.3	2241.9	2242.3	2243.8	2242.8	2242.3
17°	2231.3	2231.3	2231.3	2233.3	2232.3	2231.8
17.5°	2220.3	2220.3	2220.3	2222.3	2221.3	2220.3
18°	2209.4	2208.9	2209.4	2210.8	2209.8	2209.4
18.5°	2197.4	2196.9	2197.4	2199.3	2198.4	2197.9
19°	2185.5	2184.5	2185.5	2187.4	2186.4	2185.5
19.5°	2173.0	2172.5	2173.0	2174.9	2174.0	2173.5
20°	2160.1	2159.6	2160.1	2162.5	2161.6	2160.6
20.5°	2147.2	2146.7	2147.2	2149.6	2148.6	2148.2
21°	2133.8	2133.3	2133.8	2136.2	2135.3	2134.8

TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2092.2	2092.2	2092.2	2094.2	2093.7	2093.7
23°	2077.9	2077.4	2077.9	2079.3	2079.3	2079.3
23.5°	2063.1	2063.1	2063.1	2064.0	2065.0	2065.0
24°	2048.3	2049.2	2048.3	2048.7	2050.2	2050.2
24.5°	2033.0	2034.4	2033.0	2033.0	2034.9	2035.4
25°	2017.2	2013.4	2017.2	2016.7	2019.1	2021.5
25.5°	2001.9	1993.3	2001.9	2000.5	2003.8	2005.2
26°	1986.6	1973.2	1986.6	1983.7	1988.0	1978.0
26.5°	1970.3	1944.1	1970.3	1967.0	1972.3	1955.1
27°	1947.9	1910.1	1947.9	1949.8	1957.4	1927.3
27.5°	1927.3	1879.5	1927.3	1932.1	1936.9	1892.9
28°	1905.3	1845.6	1905.3	1914.4	1909.6	1856.6
28.5°	1874.3	1810.2	1874.3	1896.7	1886.2	1819.8
29°	1841.8	1775.8	1841.8	1878.6	1857.1	1781.1
29.5°	1810.2	1738.5	1810.2	1860.4	1822.6	1741.9
30°	1776.8	1700.8	1776.8	1841.8	1787.3	1701.2
30.5°	1741.9	1661.6	1741.9	1823.6	1750.0	1659.6
31°	1706.0	1621.4	1706.0	1805.0	1712.7	1616.6
31.5°	1670.2	1577.9	1670.2	1786.3	1674.0	1573.1
32°	1633.4	1533.4	1633.4	1767.7	1634.8	1528.7
32.5°	1595.6	1488.5	1595.6	1749.5	1594.2	1483.3
33°	1555.9	1444.1	1555.9	1730.9	1553.5	1437.8
33.5°	1515.3	1395.8	1515.3	1709.4	1511.0	1392.0
34°	1472.7	1349.9	1472.7	1686.4	1468.0	1347.0
34.5°	1428.8	1304.5	1428.8	1659.6	1424.5	1301.6
35°	1384.3	1261.0	1384.3	1627.1	1381.0	1256.7
35.5°	1340.8	1216.1	1340.8	1592.2	1337.9	1212.7
36°	1296.4	1174.0	1296.4	1553.5	1294.0	1169.2
36.5°	1252.9	1131.0	1252.9	1511.9	1250.9	1125.2
37°	1209.8	1088.4	1209.8	1468.0	1207.9	1081.7
37.5°	1168.3	1045.4	1168.3	1423.5	1165.4	1037.8
38°	1126.2	1002.4	1126.2	1377.6	1122.8	993.8
38.5°	1085.6	958.4	1085.6	1332.2	1081.7	949.3
39°	1044.9	915.4	1044.9	1286.3	1040.1	906.3
39.5°	1004.8	870.9	1004.8	1240.0	998.6	863.8
40°	963.7	828.4	963.7	1192.6	956.5	820.3
40.5°	922.1	785.4	922.1	1144.8	914.9	777.7
41°	881.0	743.8	881.0	1097.0	873.8	736.6
41.5°	839.9	703.1	839.9	1048.7	832.7	695.5
42°	798.8	664.0	798.8	1000.5	792.5	655.8
42.5°	759.1	625.2	759.1	953.1	752.4	616.6
43°	718.9	587.0	718.9	905.8	713.2	577.9
43.5°	681.2	549.7	681.2	859.5	674.5	539.2



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	569.8	441.2	569.8	726.6	562.6	429.7
45.5°	534.9	407.3	534.9	685.0	526.8	396.3
46°	500.5	374.8	500.5	645.3	491.9	364.2
46.5°	466.1	343.7	466.1	606.1	456.5	331.7
47°	432.1	314.5	432.1	567.9	423.0	301.1
47.5°	398.7	285.8	398.7	531.1	390.5	270.6
48°	367.6	258.1	367.6	495.7	359.5	243.8
48.5°	338.0	233.3	338.0	461.8	328.9	218.0
49°	308.8	210.3	308.8	427.8	298.8	196.5
49.5°	281.1	188.3	281.1	395.3	270.6	175.9
50°	254.3	166.8	254.3	363.3	243.8	155.4
50.5°	229.4	145.8	229.4	333.6	218.4	135.8
51°	207.0	128.1	207.0	305.0	196.5	117.1
51.5°	185.0	111.4	185.0	277.7	175.4	101.8
52°	164.0	95.6	164.0	251.4	154.9	87.0
52.5°	143.9	80.8	143.9	226.6	134.8	73.1
53°	126.2	66.9	126.2	204.6	116.6	60.2
53.5°	109.9	53.5	109.9	183.1	100.4	49.7
54°	94.2	42.5	94.2	163.0	85.6	38.7
54.5°	79.3	34.4	79.3	144.4	71.7	28.2
55°	65.5	26.3	65.5	126.2	59.8	20.6
55.5°	52.6	18.2	52.6	109.9	48.8	12.9
56°	41.1	10.0	41.1	94.2	38.2	8.6
56.5°	31.5	6.2	31.5	80.8	27.7	6.7
57°	22.9	5.3	22.9	68.8	18.2	4.8
57.5°	15.3	4.8	15.3	57.8	11.5	4.8
58°	10.0	4.8	10.0	48.3	7.2	4.3
58.5°	7.2	4.3	7.2	40.2	4.8	4.3
59°	5.3	4.3	5.3	32.5	3.8	3.8
59.5°	3.8	4.3	3.8	26.3	3.8	3.8
60°	3.8	3.8	3.8	21.0	3.8	3.8
60.5°	3.8	3.8	3.8	16.3	3.3	3.3
61°	3.3	3.8	3.3	12.9	3.3	3.3
61.5°	3.3	3.3	3.3	9.6	3.3	3.3
62°	3.3	3.3	3.3	7.2	2.9	2.9
62.5°	2.9	3.3	2.9	5.3	2.9	2.9
63°	2.9	2.9	2.9	3.8	2.9	2.9
63.5°	2.9	2.9	2.9	2.9	2.4	2.9
64°	2.4	2.9	2.4	2.4	2.4	2.4
64.5°	2.4	2.9	2.4	1.9	2.4	2.4
65°	2.4	2.4	2.4	1.9	2.4	2.4
65.5°	2.4	2.4	2.4	1.9	1.9	2.4
66°	1.9	2.4	1.9	1.4	1.9	2.4



TEST NUMBER: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.9	1.9	1.9	1.4	1.9	1.9
68°	1.9	1.9	1.9	1.4	1.4	1.9
68.5°	1.4	1.9	1.4	1.0	1.4	1.9
69°	1.4	1.9	1.4	1.0	1.4	1.4
69.5°	1.4	1.9	1.4	1.0	1.4	1.4
70°	1.4	1.4	1.4	1.0	1.4	1.4
70.5°	1.4	1.4	1.4	1.0	1.4	1.4
71°	1.4	1.4	1.4	1.0	1.0	1.4
71.5°	1.0	1.4	1.0	1.0	1.0	1.4
72°	1.0	1.4	1.0	1.0	1.0	1.4
72.5°	1.0	1.4	1.0	0.5	1.0	1.0
73°	1.0	1.4	1.0	0.5	1.0	1.0
73.5°	1.0	1.0	1.0	0.5	1.0	1.0
74°	1.0	1.0	1.0	0.5	1.0	1.0
74.5°	1.0	1.0	1.0	0.5	1.0	1.0
75°	1.0	1.0	1.0	0.5	1.0	1.0
75.5°	1.0	1.0	1.0	0.5	0.5	1.0
76°	0.5	1.0	0.5	0.5	0.5	1.0
76.5°	0.5	1.0	0.5	0.5	0.5	0.5
77°	0.5	1.0	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.0	0.5	0.5
79.5°	0.5	0.5	0.5	0.0	0.5	0.5
80°	0.5	0.5	0.5	0.0	0.5	0.5
80.5°	0.5	0.5	0.5	0.0	0.5	0.5
81°	0.5	0.5	0.5	0.0	0.5	0.5
81.5°	0.5	0.5	0.5	0.0	0.0	0.5
82°	0.0	0.5	0.0	0.0	0.0	0.0
82.5°	0.0	0.5	0.0	0.0	0.0	0.0
83°	0.0	0.5	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	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: P776638

CATALOG NUMBER: HCDJBL54050CSD-HCD4TSQMB-5000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	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



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°	2121.4	2121.9	2122.4	2120.4	2120.0	2120.4	2122.4	2121.9	2121.4	2121.9	2122.4
22°	2107.5	2108.0	2108.5	2106.1	2106.1	2106.1	2108.5	2108.0	2107.5	2108.0	2108.5



44°	501.9	636.2	813.6	642.9	512.4	642.9	813.6	636.2	501.9	636.2	813.6
44.5°	465.6	599.4	769.6	606.1	476.1	606.1	769.6	599.4	465.6	599.4	769.6



66.5°	1.9	1.9	1.4	1.9	2.4	1.9	1.4	1.9	1.9	1.9	1.4
67°	1.9	1.9	1.4	1.9	1.9	1.9	1.4	1.9	1.9	1.9	1.4



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	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°	2120.4	2120.0	2120.4	2122.4	2121.9	2121.4
22°	2106.1	2106.1	2106.1	2108.5	2108.0	2107.5



44°	642.9	512.4	642.9	813.6	636.2	501.9
44.5°	606.1	476.1	606.1	769.6	599.4	465.6

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

Scaled Data Report



66.5°	1.9	2.4	1.9	1.4	1.9	1.9
67°	1.9	1.9	1.9	1.4	1.9	1.9

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

Scaled Data Report



89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	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



(END OF REPORT)