

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: P776311

Luminaire Tested: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776311  
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-HCD4TSQC-4000lm-3000K  
Description: 4 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

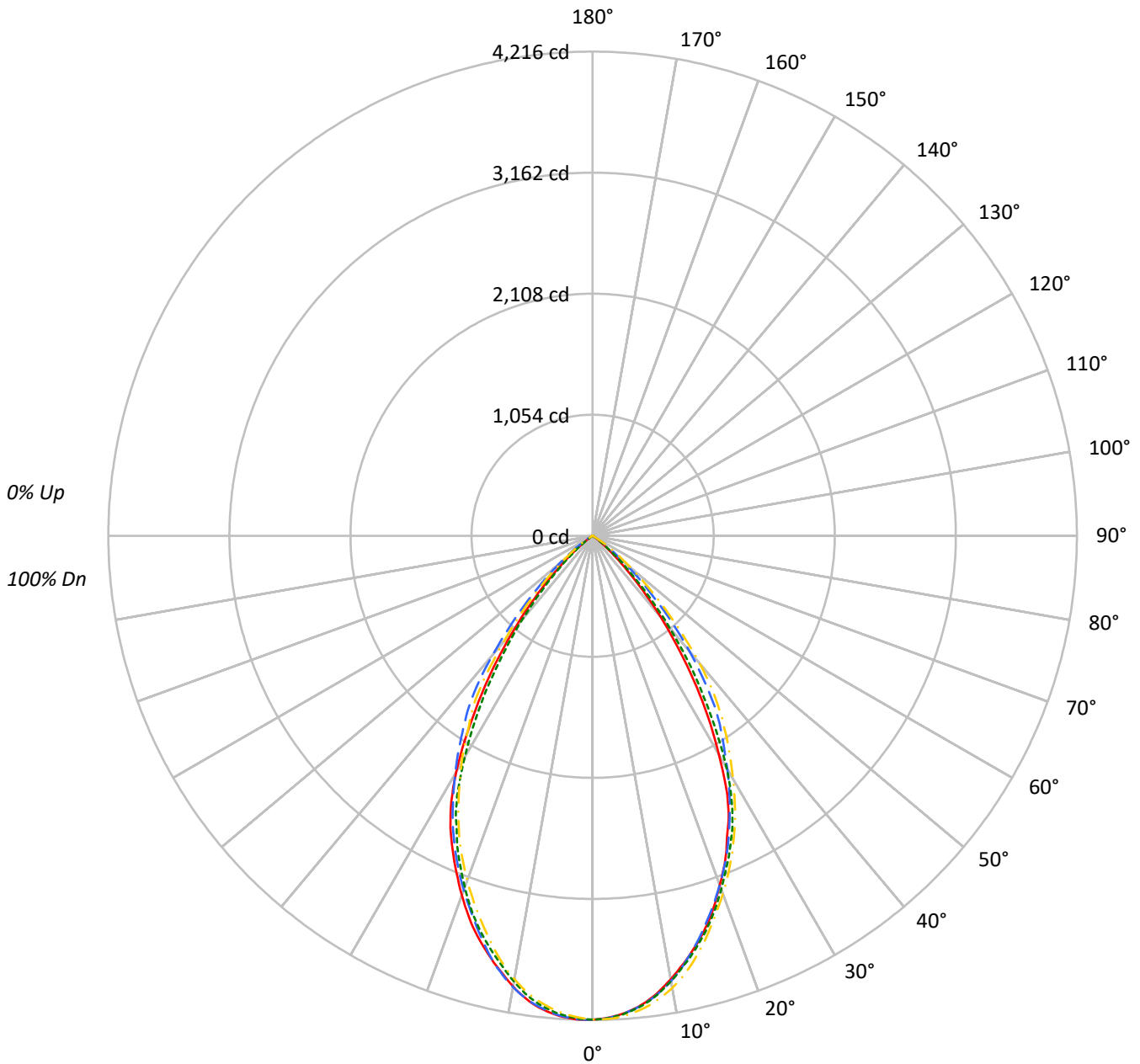
Lumens per Lamp: N/A  
Luminaire Lumens: 4357.8 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 0.94 / 0.93 / 0.98  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (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



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### Luminous Intensity Polar Plot





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**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	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	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93						93													
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86						86													
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79						79													
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73						73													
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	75	72	69	67						67													
6	85	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62						62													
7	81	71	65	60	79	70	64	60	69	64	60	68	63	59	67	62	59	57						57													
8	77	66	60	56	75	66	60	56	65	59	55	64	59	55	63	58	55	53						53													
9	73	62	56	52	71	62	56	52	61	55	52	60	55	51	59	55	51	50						50													
10	69	59	53	48	68	58	52	48	57	52	48	57	52	48	56	51	48	47						47													

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

	0°	90°	180°	270°
0°	416412	416412	416412	416412
5°	410383	411087	413846	411782
10°	393519	395175	400083	395607
15°	370809	372774	378095	371812
20°	340518	344430	350237	342411
25°	304344	312490	317409	305532
30°	251161	266079	271089	254015
35°	184797	199868	203693	189141
40°	118255	133765	136384	122952
45°	59814	73163	75413	64245
50°	21005	27986	29801	23835
55°	3912	5066	5738	5670
60°	1463	1384	1245	1700
65°	1193	1099	1006	1286
70°	896	896	780	1011
75°	764	764	611	878
80°	455	455	455	683
85°	454	454	0	454

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 121542 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	390.0	8.9
10°-20°	1020.1	23.4
20°-30°	1295.5	29.7
30°-40°	1071.2	24.6
40°-50°	490.2	11.2
50°-60°	82.4	1.9
60°-70°	5.8	0.1
70°-80°	2.2	0.1
80°-90°	0.4	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2705.5	62.1
0°-40°	3776.8	86.7
0°-60°	4349.3	99.8
0°-90°	4357.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4357.8	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	4213	4213	4213	4213	4213	
5°	4136	4143	4171	4150	4136	388
15°	3624	3643	3695	3634	3624	1013
25°	2791	2865	2910	2802	2791	1267
35°	1532	1656	1688	1568	1532	951
45°	428	523	540	460	428	347
55°	23	29	33	33	23	37
65°	5	5	4	6	5	5
75°	2	2	2	2	2	2
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

Table with 12 columns representing angles from 0° to 225° and 21 rows representing angles from 0° to 21°. The table contains numerical candela values for each angle combination, with some values highlighted in orange.



TEST NUMBER: P776311

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	3027.8	3029.8	3036.8	3050.9	3072.8	3108.5	3119.4	3102.6	3122.6	3120.2	3081.1
23°	2978.5	2987.5	2994.1	3007.5	3032.5	3065.4	3079.1	3058.4	3082.2	3076.8	3039.2
23.5°	2926.4	2942.5	2949.9	2960.9	2990.6	3024.7	3038.4	3014.1	3040.3	3032.9	2999.2
24°	2876.7	2893.9	2905.7	2919.4	2948.7	2979.3	2996.5	2969.9	2996.5	2988.7	2955.0
24.5°	2833.6	2843.0	2859.9	2877.9	2907.2	2934.2	2952.6	2926.0	2953.4	2944.4	2910.4
25°	2790.6	2789.8	2813.7	2835.6	2865.3	2889.2	2908.8	2881.8	2910.4	2899.8	2866.1
25.5°	2747.9	2741.2	2767.1	2787.4	2823.5	2843.8	2865.0	2837.5	2867.7	2855.6	2821.9
26°	2702.9	2697.0	2720.9	2739.3	2776.1	2798.8	2821.1	2793.7	2824.6	2811.3	2779.6
26.5°	2646.9	2654.3	2674.7	2690.3	2726.4	2757.7	2778.4	2742.8	2774.1	2760.4	2732.2
27°	2592.9	2610.5	2629.3	2647.3	2678.2	2715.8	2731.1	2697.4	2725.6	2717.4	2684.1
27.5°	2537.3	2565.1	2583.1	2606.2	2624.6	2670.8	2684.1	2655.1	2673.1	2670.8	2635.9
28°	2470.3	2507.5	2538.1	2564.7	2570.9	2618.3	2634.8	2609.3	2618.7	2618.7	2585.8
28.5°	2401.4	2452.7	2490.7	2514.6	2513.4	2568.2	2587.4	2559.2	2560.0	2570.2	2537.3
29°	2334.1	2397.9	2443.7	2465.6	2455.5	2516.1	2539.6	2511.8	2500.9	2516.9	2488.3
29.5°	2267.5	2334.5	2394.0	2417.1	2394.8	2461.3	2492.3	2459.8	2437.8	2461.3	2439.8
30°	2200.6	2267.9	2344.7	2365.8	2331.3	2404.6	2446.4	2405.7	2375.2	2404.9	2390.9
30.5°	2133.6	2201.0	2293.4	2311.4	2264.0	2345.0	2399.1	2350.9	2308.6	2346.2	2343.5
31°	2067.1	2135.2	2244.8	2255.4	2197.1	2286.3	2349.7	2294.2	2238.6	2287.1	2296.9
31.5°	2001.7	2069.8	2197.1	2198.6	2127.8	2224.9	2300.0	2236.2	2168.9	2224.5	2250.3
32°	1937.1	2006.4	2154.4	2140.3	2058.1	2162.2	2249.9	2175.1	2099.6	2161.8	2201.4
32.5°	1871.3	1941.8	2110.5	2079.2	1987.2	2097.6	2205.3	2112.5	2027.5	2096.8	2149.7
33°	1803.6	1878.4	2067.5	2017.8	1919.5	2029.9	2161.4	2049.1	1958.6	2031.5	2101.5
33.5°	1736.7	1816.5	2022.8	1953.9	1850.2	1963.0	2117.6	1984.1	1886.2	1963.0	2055.7
34°	1669.7	1753.5	1976.3	1889.3	1784.4	1896.0	2070.6	1917.1	1819.7	1893.3	2008.8
34.5°	1600.8	1690.1	1927.3	1824.0	1718.7	1829.5	2020.1	1850.2	1752.3	1825.9	1961.8
35°	1531.5	1626.3	1884.3	1759.0	1656.4	1764.1	1977.4	1786.0	1688.1	1762.5	1919.9
35.5°	1463.0	1561.3	1834.9	1693.6	1592.6	1700.3	1935.5	1720.6	1620.4	1695.2	1877.6
36°	1393.3	1497.1	1776.2	1629.8	1530.3	1637.6	1883.9	1656.8	1557.0	1631.4	1826.3
36.5°	1331.9	1431.7	1718.7	1568.3	1468.9	1576.2	1833.4	1594.2	1493.2	1566.8	1771.1
37°	1270.4	1371.0	1662.7	1507.3	1405.5	1515.5	1785.2	1531.9	1431.3	1508.4	1721.0
37.5°	1208.9	1310.3	1602.8	1447.0	1341.3	1456.0	1731.2	1472.0	1366.7	1446.6	1663.5
38°	1147.1	1249.6	1543.3	1383.9	1279.0	1397.2	1677.2	1412.9	1301.3	1388.2	1603.2
38.5°	1088.4	1188.6	1484.2	1328.3	1216.8	1338.1	1623.5	1355.0	1238.3	1329.5	1541.7
39°	1030.8	1128.3	1425.8	1272.4	1155.7	1282.5	1564.8	1297.0	1178.4	1271.6	1479.5
39.5°	972.5	1071.9	1367.1	1216.8	1095.4	1223.0	1506.1	1237.9	1116.5	1212.8	1415.6
40°	916.5	1017.1	1308.8	1161.2	1036.7	1164.7	1447.7	1180.7	1057.0	1156.1	1353.8
40.5°	859.3	961.5	1250.4	1105.6	979.9	1106.8	1387.5	1124.0	998.3	1098.9	1291.9
41°	804.1	909.4	1192.1	1050.8	924.7	1051.9	1326.4	1067.6	943.9	1043.3	1231.6
41.5°	750.1	856.2	1133.8	997.1	871.1	996.4	1264.1	1012.0	888.3	987.0	1172.1
42°	697.6	805.3	1075.4	943.1	817.0	943.5	1202.7	958.8	835.8	934.5	1113.8
42.5°	647.1	755.2	1018.3	893.4	766.5	890.3	1143.6	907.1	783.4	883.6	1056.6
43°	599.8	705.5	960.7	844.1	714.9	842.5	1084.8	857.0	730.9	832.7	1002.2
43.5°	554.0	656.1	903.6	796.3	664.8	791.6	1028.5	808.4	681.2	783.8	948.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	427.9	523.8	746.6	660.8	523.4	652.6	869.5	669.8	539.5	646.7	794.3
45.5°	388.8	482.3	699.2	618.2	480.4	607.6	819.4	626.4	496.0	603.7	746.2
46°	352.3	444.7	652.2	575.5	439.3	564.5	771.6	584.5	454.5	561.4	698.4
46.5°	317.5	408.3	608.8	534.8	400.5	523.0	724.7	542.2	415.0	520.3	651.8
47°	284.2	371.9	566.1	494.5	366.0	483.1	680.4	502.3	381.3	481.5	607.6
47.5°	253.7	337.9	525.4	456.9	331.6	443.6	635.4	464.7	347.6	444.0	564.9
48°	225.5	305.4	485.5	420.9	297.5	407.5	593.5	427.1	314.0	407.9	524.2
48.5°	199.7	274.8	447.9	386.0	263.5	375.8	551.6	392.3	280.7	377.0	485.5
49°	176.6	245.5	411.5	353.9	234.1	343.7	512.5	361.3	247.0	346.1	448.7
49.5°	155.4	219.2	377.0	323.8	207.5	312.0	472.9	330.4	219.6	315.5	412.6
50°	136.6	195.0	342.9	294.4	182.0	280.3	436.1	299.5	193.8	284.6	382.1
50.5°	122.5	172.3	312.8	264.6	158.9	248.6	400.9	268.6	170.3	253.7	352.0
51°	108.4	151.5	283.1	238.0	138.2	222.4	370.0	240.8	149.2	228.6	321.4
51.5°	94.4	133.5	256.0	212.6	119.0	198.1	338.6	215.3	129.2	204.4	290.9
52°	80.3	119.8	230.2	189.1	101.8	175.8	307.3	191.0	110.4	181.7	260.7
52.5°	69.3	106.1	207.1	166.8	85.7	153.9	276.0	169.1	93.6	160.1	235.3
53°	59.1	92.0	183.6	145.6	71.6	133.9	249.4	147.6	78.7	140.2	211.4
53.5°	49.3	78.7	164.4	129.2	58.7	115.9	224.7	128.4	65.0	121.4	189.5
54°	40.3	68.1	144.9	112.8	48.9	99.0	200.4	110.0	54.4	104.1	168.3
54.5°	30.9	58.3	130.0	96.7	39.1	83.8	177.7	94.0	43.8	89.3	149.2
55°	22.7	49.3	115.9	80.3	29.4	70.5	157.4	78.7	33.3	74.8	131.5
55.5°	16.4	40.3	101.4	64.2	20.0	57.2	137.8	65.0	22.7	61.9	115.5
56°	14.9	31.3	86.9	52.1	10.2	47.8	119.8	54.4	12.1	51.7	101.0
56.5°	13.3	23.5	72.4	41.1	9.4	38.0	103.0	44.2	8.6	41.5	87.3
57°	11.7	16.4	61.1	31.3	9.0	28.6	88.1	34.1	8.2	31.7	75.2
57.5°	10.2	14.5	52.1	21.5	8.6	19.2	74.4	23.9	7.8	21.5	64.6
58°	8.6	12.9	43.8	14.1	8.2	9.4	62.2	13.7	7.4	11.4	55.2
58.5°	8.2	11.4	36.8	12.5	7.8	8.2	52.1	8.2	7.0	8.2	46.6
59°	7.8	9.8	30.5	11.0	7.4	7.8	45.4	7.4	6.7	7.4	41.1
59.5°	7.8	7.8	25.4	9.4	7.0	7.4	38.8	7.0	6.3	7.4	35.6
60°	7.4	7.4	21.5	7.4	7.0	7.0	32.5	6.7	6.3	7.0	29.8
60.5°	7.0	7.4	18.0	7.4	6.7	7.0	25.8	6.7	5.9	6.7	24.3
61°	6.7	7.0	14.9	7.0	6.3	6.7	19.2	6.3	5.9	6.3	18.8
61.5°	6.7	6.7	12.9	6.7	6.3	6.3	15.7	5.9	5.5	6.3	15.3
62°	6.3	6.7	11.0	6.3	5.9	6.3	12.9	5.9	5.1	5.9	12.9
62.5°	5.9	6.3	9.0	6.3	5.9	5.9	10.6	5.5	5.1	5.9	10.6
63°	5.9	5.9	7.0	5.9	5.5	5.5	8.6	5.5	4.7	5.5	8.6
63.5°	5.5	5.9	6.3	5.9	5.1	5.5	7.0	5.1	4.7	5.1	7.4
64°	5.5	5.5	5.9	5.5	5.1	5.1	5.9	5.1	4.7	5.1	6.3
64.5°	5.1	5.5	5.5	5.5	4.7	5.1	5.5	4.7	4.3	4.7	5.5
65°	5.1	5.1	5.5	5.1	4.7	4.7	5.1	4.7	4.3	4.7	5.5
65.5°	4.7	5.1	5.1	5.1	4.7	4.7	4.7	4.3	3.9	4.7	5.1
66°	4.7	4.7	4.7	4.7	4.3	4.3	4.7	4.3	3.9	4.3	4.7





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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.9	4.3	4.3	4.3	3.9	3.9	4.3	3.9	3.5	3.9	4.3
68°	3.9	3.9	4.3	3.9	3.5	3.9	3.9	3.5	3.1	3.9	3.9
68.5°	3.5	3.9	3.9	3.9	3.5	3.5	3.9	3.5	3.1	3.5	3.9
69°	3.5	3.5	3.9	3.5	3.5	3.5	3.5	3.1	3.1	3.5	3.9
69.5°	3.5	3.5	3.5	3.5	3.1	3.5	3.5	3.1	2.7	3.1	3.5
70°	3.1	3.5	3.5	3.5	3.1	3.1	3.5	3.1	2.7	3.1	3.5
70.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	2.7	2.7	3.1	3.1
71°	2.7	3.1	3.1	3.1	2.7	3.1	3.1	2.7	2.7	2.7	3.1
71.5°	2.7	3.1	3.1	3.1	2.7	2.7	2.7	2.7	2.3	2.7	3.1
72°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.3	2.3	2.7	2.7
72.5°	2.3	2.7	2.7	2.7	2.3	2.7	2.7	2.3	2.3	2.3	2.7
73°	2.3	2.3	2.7	2.7	2.3	2.3	2.3	2.3	2.0	2.3	2.7
73.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.0	2.3	2.3
74°	2.0	2.3	2.3	2.3	2.0	2.3	2.3	2.0	2.0	2.3	2.3
74.5°	2.0	2.0	2.3	2.3	2.0	2.0	2.3	2.0	2.0	2.0	2.3
75°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	2.0	2.0
75.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	2.0	2.0
76°	1.6	2.0	2.0	2.0	1.6	2.0	2.0	1.6	1.6	1.6	2.0
76.5°	1.6	1.6	2.0	2.0	1.6	1.6	2.0	1.6	1.6	1.6	2.0
77°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.2	1.2	1.6	1.6
78°	1.2	1.2	1.6	1.6	1.2	1.6	1.6	1.2	1.2	1.2	1.6
78.5°	1.2	1.2	1.6	1.2	1.2	1.2	1.6	1.2	1.2	1.2	1.6
79°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	1.2	1.2
79.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.8	0.8	1.2	1.2
80°	0.8	0.8	1.2	1.2	0.8	1.2	1.2	0.8	0.8	0.8	1.2
80.5°	0.8	0.8	1.2	1.2	0.8	1.2	1.2	0.8	0.8	0.8	1.2
81°	0.8	0.8	1.2	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.8
81.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.4	0.8	0.8	0.8
82°	0.8	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
82.5°	0.4	0.4	0.8	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.8
83°	0.4	0.4	0.8	0.8	0.4	0.8	0.8	0.4	0.4	0.4	0.8
83.5°	0.4	0.4	0.8	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.4	0.4	0.4
85°	0.4	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
85.5°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86°	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.4
86.5°	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.4
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: P776311  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**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: P776311

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4212.9	4212.9	4212.9	4212.9	4212.9	4212.9
0.5°	4212.1	4212.1	4209.7	4207.4	4210.1	4212.1
1°	4210.5	4210.1	4206.6	4203.5	4207.0	4207.8
1.5°	4207.8	4207.4	4203.1	4198.8	4201.9	4203.5
2°	4204.3	4203.1	4198.0	4192.1	4196.4	4196.8
2.5°	4198.8	4197.2	4190.9	4185.1	4189.4	4189.4
3°	4192.5	4190.6	4182.7	4175.7	4181.9	4181.9
3.5°	4185.5	4182.3	4173.7	4166.7	4173.3	4172.5
4°	4176.8	4173.7	4163.5	4155.3	4163.1	4162.4
4.5°	4166.7	4162.4	4151.8	4144.0	4151.4	4149.8
5°	4155.7	4150.2	4139.3	4130.3	4138.9	4136.1
5.5°	4142.8	4136.9	4124.8	4115.8	4124.0	4120.9
6°	4128.7	4122.0	4109.1	4100.9	4108.3	4104.0
6.5°	4112.6	4105.2	4092.3	4082.9	4090.7	4086.4
7°	4095.4	4086.8	4073.1	4063.7	4071.9	4066.4
7.5°	4075.8	4067.2	4053.5	4043.7	4052.4	4046.1
8°	4055.9	4045.3	4030.8	4021.8	4030.8	4023.8
8.5°	4033.6	4021.8	4007.3	3998.7	4008.9	3999.9
9°	4009.7	3995.6	3982.3	3974.4	3983.8	3972.9
9.5°	3984.2	3969.0	3955.7	3949.0	3958.0	3946.3
10°	3957.6	3941.6	3927.1	3919.6	3931.0	3920.8
10.5°	3930.2	3912.2	3897.3	3893.8	3904.0	3892.6
11°	3901.2	3883.2	3868.0	3863.3	3876.2	3864.8
11.5°	3872.3	3851.9	3837.0	3830.8	3847.2	3835.9
12°	3840.9	3821.0	3804.9	3796.3	3817.1	3808.1
12.5°	3810.4	3790.8	3772.4	3763.0	3786.9	3779.1
13°	3779.1	3759.9	3739.6	3727.4	3756.8	3748.6
13.5°	3747.4	3729.4	3707.4	3691.4	3725.5	3718.0
14°	3715.3	3698.1	3673.8	3653.4	3693.0	3687.1
14.5°	3682.8	3667.1	3641.7	3616.6	3660.9	3655.4
15°	3650.7	3633.5	3607.6	3578.3	3627.6	3623.7
15.5°	3617.8	3600.2	3572.8	3540.3	3593.1	3591.6
16°	3583.7	3566.9	3537.1	3501.9	3559.1	3556.7
16.5°	3548.9	3532.5	3502.3	3463.9	3524.2	3522.3
17°	3512.5	3496.0	3465.9	3425.2	3487.8	3486.3
17.5°	3477.2	3460.0	3428.7	3387.2	3451.4	3448.3
18°	3439.7	3420.5	3389.9	3348.8	3413.8	3407.2
18.5°	3402.1	3379.8	3351.2	3309.7	3374.7	3364.5
19°	3362.5	3339.8	3310.5	3270.9	3333.2	3321.0
19.5°	3321.4	3298.3	3269.0	3231.8	3290.1	3279.9
20°	3280.3	3255.3	3227.5	3190.3	3246.3	3237.3
20.5°	3237.3	3213.4	3183.6	3150.4	3202.4	3195.8
21°	3194.6	3169.9	3140.6	3109.6	3157.0	3155.0

TEST NUMBER: P776311

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	3063.4	3040.3	3005.5	2986.3	3023.1	3027.8
23°	3017.2	2997.3	2959.7	2944.0	2978.5	2978.5
23.5°	2972.2	2953.0	2913.9	2901.0	2935.0	2926.4
24°	2926.8	2903.3	2868.9	2855.9	2888.8	2876.7
24.5°	2881.4	2850.9	2822.7	2808.6	2839.9	2833.6
25°	2836.4	2801.5	2774.5	2761.6	2788.2	2790.6
25.5°	2791.0	2758.9	2724.4	2714.6	2736.2	2747.9
26°	2738.5	2717.0	2671.6	2666.9	2683.3	2702.9
26.5°	2685.6	2664.9	2621.8	2617.1	2637.5	2646.9
27°	2636.3	2608.5	2577.6	2569.4	2592.9	2592.9
27.5°	2590.5	2557.2	2533.0	2519.3	2549.4	2537.3
28°	2546.3	2492.3	2480.5	2470.3	2503.6	2470.3
28.5°	2495.8	2426.1	2423.3	2422.2	2451.9	2401.4
29°	2437.1	2358.4	2372.1	2375.6	2395.9	2334.1
29.5°	2385.4	2291.8	2309.8	2328.6	2344.3	2267.5
30°	2322.0	2225.6	2244.4	2281.6	2283.6	2200.6
30.5°	2259.7	2160.7	2177.5	2233.1	2220.9	2133.6
31°	2192.4	2095.3	2112.5	2183.4	2156.3	2067.1
31.5°	2127.8	2029.9	2048.3	2128.9	2091.0	2001.7
32°	2064.7	1966.1	1985.3	2075.7	2026.8	1937.1
32.5°	2002.9	1902.7	1921.1	2025.2	1963.3	1871.3
33°	1937.9	1838.1	1861.2	1979.4	1902.7	1803.6
33.5°	1878.0	1771.5	1800.1	1940.2	1840.8	1736.7
34°	1815.7	1703.8	1739.8	1902.3	1779.7	1669.7
34.5°	1757.0	1635.7	1676.8	1852.2	1717.5	1600.8
35°	1693.6	1567.5	1616.5	1806.0	1657.6	1531.5
35.5°	1633.3	1500.6	1553.1	1758.6	1596.1	1463.0
36°	1569.9	1434.0	1490.8	1697.5	1535.8	1393.3
36.5°	1510.0	1371.8	1427.4	1640.0	1473.6	1331.9
37°	1445.0	1309.5	1367.5	1579.3	1413.7	1270.4
37.5°	1382.0	1247.7	1307.6	1513.9	1354.2	1208.9
38°	1319.3	1185.4	1248.1	1448.1	1294.3	1147.1
38.5°	1258.7	1123.6	1188.6	1381.6	1234.8	1088.4
39°	1199.1	1066.8	1129.1	1322.9	1175.3	1030.8
39.5°	1142.0	1010.4	1073.1	1264.5	1115.8	972.5
40°	1085.2	952.9	1020.6	1205.8	1061.7	916.5
40.5°	1031.2	895.3	967.0	1147.5	1007.7	859.3
41°	978.7	841.7	915.7	1092.3	956.0	804.1
41.5°	927.1	784.2	864.4	1038.6	903.6	750.1
42°	876.2	734.1	813.9	986.2	853.8	697.6
42.5°	825.3	683.2	764.2	935.7	804.5	647.1
43°	775.5	635.8	714.9	884.8	757.5	599.8
43.5°	727.4	586.8	667.5	835.4	709.8	554.0



TEST NUMBER: P776311

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	590.4	459.6	536.3	692.2	574.3	427.9
45.5°	548.1	418.9	496.4	647.9	533.2	388.8
46°	507.8	382.1	458.4	604.1	492.9	352.3
46.5°	469.0	346.1	421.6	563.8	455.3	317.5
47°	431.8	311.6	386.4	524.2	418.5	284.2
47.5°	396.6	278.7	351.6	487.0	382.5	253.7
48°	364.5	250.6	319.1	450.6	349.6	225.5
48.5°	332.4	222.8	288.5	417.7	317.1	199.7
49°	300.3	198.1	259.6	385.6	286.6	176.6
49.5°	268.6	175.8	232.9	355.9	256.8	155.4
50°	240.8	155.0	207.5	325.7	231.8	136.6
50.5°	214.9	136.2	184.4	298.3	207.1	122.5
51°	192.2	122.5	163.6	271.3	183.6	108.4
51.5°	170.3	108.8	145.2	247.0	161.7	94.4
52°	149.9	95.5	131.5	223.9	143.3	80.3
52.5°	131.9	81.8	117.8	201.6	129.2	69.3
53°	115.9	70.9	104.1	180.5	115.1	59.1
53.5°	101.8	60.7	90.4	161.7	101.0	49.3
54°	88.9	50.9	76.7	144.1	86.9	40.3
54.5°	77.5	41.9	66.9	130.0	72.8	30.9
55°	67.3	32.9	57.2	116.3	62.6	22.7
55.5°	57.5	24.3	48.2	102.2	53.6	16.4
56°	50.1	18.0	38.8	88.5	44.6	14.9
56.5°	42.7	12.9	30.5	74.4	36.4	13.3
57°	35.2	12.1	22.3	63.8	28.6	11.7
57.5°	27.8	11.4	16.1	54.8	21.1	10.2
58°	20.4	11.0	14.5	46.6	14.9	8.6
58.5°	12.9	10.2	12.9	39.1	13.3	8.2
59°	10.2	9.8	11.7	32.9	11.7	7.8
59.5°	9.4	9.4	10.2	27.4	9.8	7.8
60°	9.0	8.6	9.0	22.7	8.2	7.4
60.5°	8.6	8.2	8.6	18.8	7.8	7.0
61°	8.2	7.8	8.2	15.7	7.4	6.7
61.5°	7.8	7.4	7.8	13.7	7.0	6.7
62°	7.4	7.4	7.4	11.7	6.7	6.3
62.5°	7.0	7.0	7.0	9.8	6.7	5.9
63°	6.7	6.7	6.7	7.8	6.3	5.9
63.5°	6.3	6.3	6.3	6.7	5.9	5.5
64°	6.3	5.9	6.3	5.9	5.9	5.5
64.5°	5.9	5.9	5.9	5.9	5.5	5.1
65°	5.5	5.5	5.5	5.5	5.5	5.1
65.5°	5.5	5.5	5.5	5.5	5.1	4.7
66°	5.1	5.1	5.1	5.1	5.1	4.7



TEST NUMBER: P776311

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	4.7	4.3	4.7	4.3	4.3	3.9
68°	4.3	4.3	4.3	4.3	4.3	3.9
68.5°	4.3	3.9	4.3	3.9	3.9	3.5
69°	3.9	3.9	3.9	3.9	3.9	3.5
69.5°	3.9	3.9	3.9	3.9	3.5	3.5
70°	3.5	3.5	3.5	3.5	3.5	3.1
70.5°	3.5	3.5	3.5	3.5	3.5	3.1
71°	3.1	3.1	3.1	3.1	3.1	2.7
71.5°	3.1	3.1	3.1	3.1	3.1	2.7
72°	3.1	3.1	3.1	3.1	2.7	2.7
72.5°	2.7	2.7	2.7	2.7	2.7	2.3
73°	2.7	2.7	2.7	2.7	2.7	2.3
73.5°	2.7	2.7	2.7	2.7	2.3	2.3
74°	2.3	2.3	2.3	2.3	2.3	2.0
74.5°	2.3	2.3	2.3	2.3	2.3	2.0
75°	2.3	2.3	2.3	2.3	2.0	2.0
75.5°	2.0	2.0	2.0	2.0	2.0	2.0
76°	2.0	2.0	2.0	2.0	2.0	1.6
76.5°	2.0	2.0	2.0	2.0	2.0	1.6
77°	2.0	1.6	2.0	2.0	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6
78°	1.6	1.6	1.6	1.6	1.6	1.2
78.5°	1.6	1.6	1.6	1.6	1.2	1.2
79°	1.2	1.2	1.6	1.6	1.2	1.2
79.5°	1.2	1.2	1.2	1.2	1.2	1.2
80°	1.2	1.2	1.2	1.2	1.2	0.8
80.5°	1.2	1.2	1.2	1.2	0.8	0.8
81°	1.2	1.2	1.2	1.2	0.8	0.8
81.5°	0.8	0.8	0.8	0.8	0.8	0.8
82°	0.8	0.8	0.8	0.8	0.8	0.8
82.5°	0.8	0.8	0.8	0.8	0.4	0.4
83°	0.8	0.8	0.8	0.8	0.4	0.4
83.5°	0.8	0.8	0.8	0.8	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.0	0.4
85.5°	0.4	0.4	0.4	0.4	0.0	0.0
86°	0.4	0.4	0.4	0.4	0.0	0.0
86.5°	0.4	0.4	0.4	0.4	0.0	0.0
87°	0.0	0.4	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: P776311

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQC-4000lm-3000K

**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



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°	3115.1	3114.7	3117.5	3136.6	3150.4	3195.0	3198.9	3189.9	3205.2	3206.7	3162.1
22°	3073.2	3070.5	3077.5	3094.4	3112.0	3151.5	3158.6	3148.4	3164.1	3163.3	3121.8



44°	509.7	610.3	848.8	748.9	616.2	744.6	972.5	759.9	633.0	736.0	896.5
44.5°	467.1	566.1	795.9	705.1	568.4	697.6	919.6	714.5	586.1	691.0	844.5



66.5°	4.3	4.7	4.7	4.7	4.3	4.3	4.3	3.9	3.9	4.3	4.7
67°	4.3	4.3	4.3	4.3	3.9	4.3	4.3	3.9	3.5	3.9	4.3



89°	0.0	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	0.0



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

Scaled Data Report





21.5°	3151.5	3125.3	3095.9	3068.1	3112.8	3115.1
22°	3107.3	3083.0	3051.3	3027.8	3068.1	3073.2



44°	680.4	543.4	622.1	786.1	662.0	509.7
44.5°	633.8	501.1	579.0	739.1	616.6	467.1



66.5°	5.1	4.7	5.1	4.7	4.7	4.3
67°	4.7	4.7	4.7	4.7	4.7	4.3

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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

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(END OF REPORT)