

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: P775693

Luminaire Tested: HCDJBL5510CSD-HCD4TSQC-1000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775693
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: HCDJBL510CSD-HCD4TSQC-1000lm-4000K
Description: 4 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

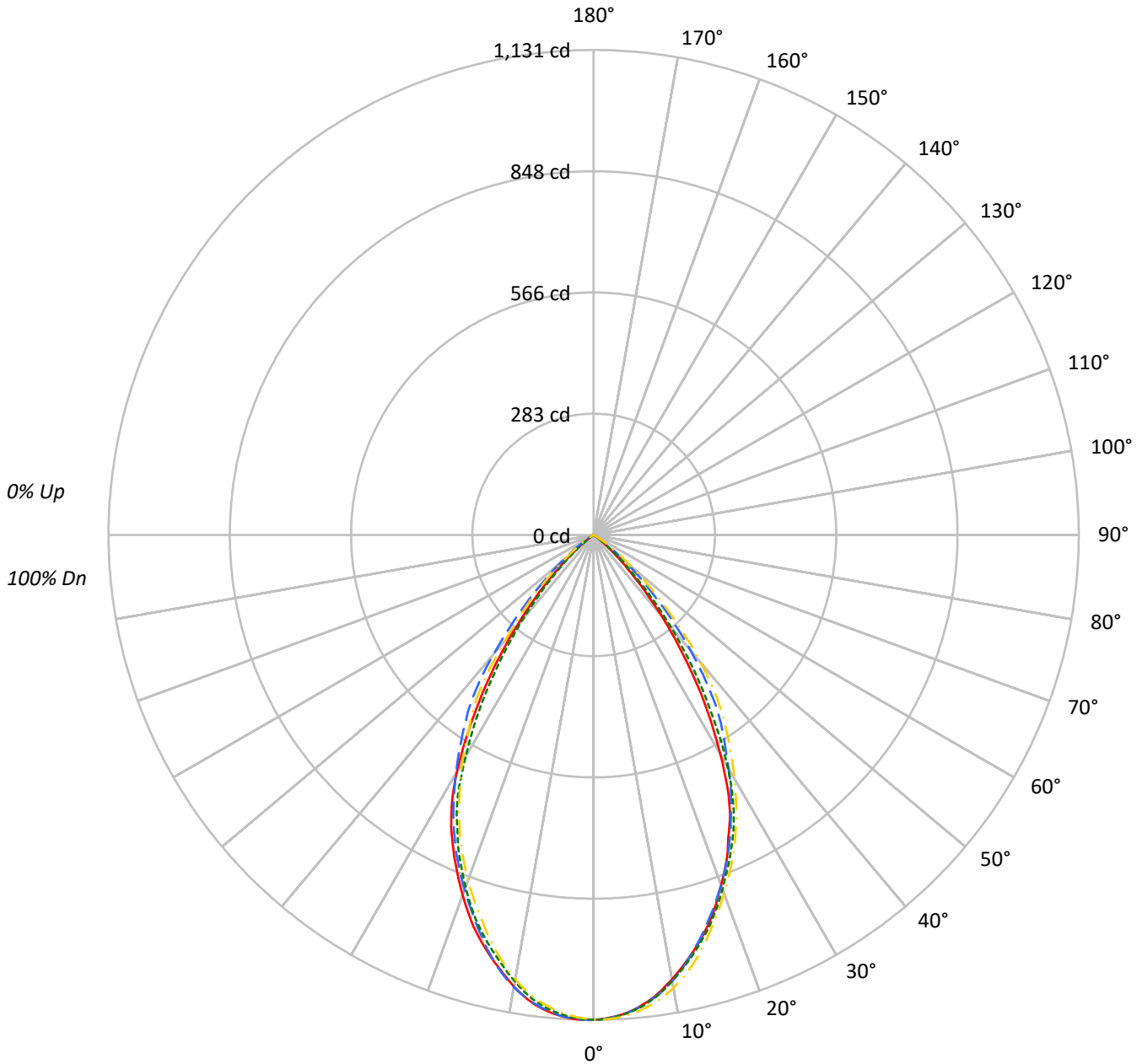
Lumens per Lamp: N/A
Luminaire Lumens: 1169.4 lumens
Efficiency: N/A
Efficacy: 116.9 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.93 / 0.98
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 10
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: P775693
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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			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°	111741	111741	111741	111741
5°	110124	110313	111057	110501
10°	105606	106048	107363	106158
15°	99505	100037	101459	99771
20°	91375	92427	93983	91890
25°	81675	83856	85176	81992
30°	67396	71402	72748	68172
35°	49593	53635	54661	50763
40°	31728	35896	36606	32993
45°	16047	19640	20241	17235
50°	5643	7519	7996	6397
55°	1051	1361	1534	1516
60°	395	376	336	455
65°	327	304	281	351
70°	231	231	202	260
75°	191	191	153	229
80°	114	114	114	171
85°	113	113	0	113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 32612 cd/sqm



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.6	8.9
10°-20°	273.7	23.4
20°-30°	347.6	29.7
30°-40°	287.5	24.6
40°-50°	131.6	11.2
50°-60°	22.1	1.9
60°-70°	1.6	0.1
70°-80°	0.6	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°	726.0	62.1
0°-40°	1013.5	86.7
0°-60°	1167.2	99.8
0°-90°	1169.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1169.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1130	1130	1130	1130	1130	
5°	1110	1112	1119	1114	1110	104
15°	972	978	992	975	972	272
25°	749	769	781	752	749	340
35°	411	444	453	421	411	255
45°	115	140	145	123	115	93
55°	6	8	9	9	6	10
65°	1	1	1	2	1	1
75°	0	0	0	1	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5
0.5°	1130.3	1130.4	1130.4	1129.9	1130.3	1130.3	1130.3	1130.7	1131.4	1131.5	1131.3
1°	1129.2	1129.5	1129.6	1129.3	1129.8	1130.0	1130.3	1130.7	1131.4	1131.4	1131.1
1.5°	1128.0	1128.2	1128.4	1128.3	1128.7	1129.2	1129.9	1130.3	1131.1	1131.3	1130.5
2°	1126.2	1126.5	1126.9	1126.8	1127.4	1128.3	1129.2	1129.6	1130.4	1130.7	1129.9
2.5°	1124.2	1124.5	1125.0	1125.0	1125.6	1126.9	1128.3	1128.4	1129.3	1129.6	1129.1
3°	1122.2	1122.4	1122.7	1122.9	1123.6	1125.1	1126.9	1127.1	1128.0	1128.1	1127.4
3.5°	1119.7	1119.8	1120.1	1120.4	1121.2	1123.2	1125.3	1125.0	1126.3	1126.4	1125.5
4°	1117.0	1117.0	1117.2	1117.7	1118.5	1120.8	1123.1	1123.0	1124.3	1124.3	1123.3
4.5°	1113.6	1113.8	1114.2	1114.8	1115.5	1118.2	1120.7	1120.4	1122.1	1122.0	1120.8
5°	1109.9	1110.0	1110.8	1111.4	1111.8	1115.2	1118.0	1117.7	1119.3	1119.5	1117.8
5.5°	1105.8	1106.1	1107.0	1107.7	1108.3	1111.7	1115.1	1114.7	1116.2	1116.5	1114.8
6°	1101.3	1101.5	1102.9	1103.5	1104.1	1108.2	1111.5	1111.1	1112.9	1113.0	1111.2
6.5°	1096.6	1096.7	1098.3	1099.2	1099.5	1104.0	1107.9	1107.3	1109.3	1109.3	1107.7
7°	1091.2	1091.5	1093.3	1094.5	1094.7	1099.3	1104.1	1103.1	1105.1	1105.2	1103.5
7.5°	1085.8	1085.8	1088.2	1089.3	1089.1	1094.4	1099.6	1098.7	1100.3	1100.8	1099.1
8°	1079.8	1079.9	1082.2	1083.9	1083.4	1088.9	1094.9	1093.6	1095.0	1095.5	1094.2
8.5°	1073.4	1073.8	1076.4	1077.9	1077.0	1083.2	1089.9	1088.2	1089.3	1090.4	1088.8
9°	1066.1	1067.0	1069.9	1071.4	1070.4	1077.1	1084.4	1082.2	1083.0	1084.4	1083.5
9.5°	1059.0	1059.9	1063.3	1064.8	1063.6	1070.5	1078.7	1075.8	1076.6	1078.1	1077.5
10°	1052.2	1052.6	1056.2	1057.8	1056.6	1064.0	1072.6	1069.2	1069.7	1071.4	1070.8
10.5°	1044.6	1045.1	1048.9	1050.4	1049.2	1057.3	1066.0	1061.9	1062.5	1064.3	1063.9
11°	1037.1	1037.7	1041.2	1042.9	1041.9	1049.7	1058.8	1054.6	1054.7	1057.2	1056.9
11.5°	1029.4	1030.0	1032.9	1034.9	1034.0	1042.4	1051.8	1046.6	1046.6	1049.4	1049.3
12°	1021.9	1022.1	1024.5	1026.6	1026.2	1034.8	1044.2	1038.6	1038.8	1041.1	1040.9
12.5°	1014.1	1014.1	1015.3	1018.5	1018.5	1027.0	1035.9	1030.2	1031.5	1033.1	1033.0
13°	1005.9	1006.1	1006.6	1010.0	1010.9	1019.3	1027.5	1021.7	1023.9	1025.2	1023.9
13.5°	997.7	997.7	997.5	1001.3	1002.7	1011.4	1019.3	1013.4	1015.9	1016.5	1014.5
14°	989.4	989.2	988.1	992.8	994.4	1003.3	1009.6	1005.0	1007.8	1008.1	1004.8
14.5°	980.9	980.6	978.6	984.0	986.1	995.1	1000.4	996.5	999.7	999.8	995.1
15°	972.4	972.0	969.4	975.4	977.6	986.7	991.0	988.0	991.5	991.3	984.5
15.5°	963.8	963.1	959.3	966.3	969.0	978.1	981.1	978.9	982.8	982.5	974.1
16°	954.5	953.5	949.6	956.9	960.0	969.3	970.8	970.1	974.4	973.9	963.5
16.5°	945.2	944.8	939.6	947.4	950.9	960.8	960.9	961.0	965.4	964.8	953.4
17°	935.5	935.4	929.8	938.0	941.4	951.2	950.6	951.7	956.0	955.5	942.7
17.5°	925.4	925.7	919.7	928.3	931.4	942.0	940.4	942.1	946.2	946.3	932.4
18°	914.3	914.8	909.6	918.5	921.2	932.3	930.4	932.2	936.0	936.7	921.8
18.5°	902.9	904.9	899.5	908.1	910.9	922.5	920.4	921.9	925.6	926.4	911.6
19°	891.2	893.5	889.2	897.5	900.3	911.8	910.2	911.5	915.3	916.0	901.4
19.5°	880.2	881.9	878.7	886.5	889.6	901.7	900.1	901.1	904.6	905.2	891.1
20°	868.7	870.3	868.5	875.8	878.7	890.7	889.8	889.8	893.5	894.4	880.6
20.5°	857.6	858.9	858.2	864.5	867.7	879.8	879.4	878.7	882.4	883.2	870.0
21°	846.7	847.3	847.6	853.3	856.4	868.5	868.9	867.5	871.2	872.0	859.1



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	812.5	813.0	814.9	818.7	824.6	834.2	837.1	832.6	837.9	837.3	826.8
23°	799.3	801.7	803.5	807.1	813.8	822.6	826.3	820.7	827.1	825.7	815.6
23.5°	785.3	789.6	791.6	794.6	802.5	811.7	815.4	808.8	815.9	813.9	804.9
24°	772.0	776.6	779.7	783.4	791.3	799.5	804.1	797.0	804.1	802.0	793.0
24.5°	760.4	762.9	767.5	772.3	780.2	787.4	792.3	785.2	792.6	790.1	781.0
25°	748.9	748.6	755.1	760.9	768.9	775.3	780.6	773.3	781.0	778.2	769.1
25.5°	737.4	735.6	742.6	748.0	757.7	763.1	768.8	761.5	769.6	766.3	757.3
26°	725.3	723.7	730.2	735.1	745.0	751.1	757.1	749.7	758.0	754.4	745.9
26.5°	710.3	712.3	717.8	722.0	731.6	740.0	745.6	736.0	744.4	740.8	733.2
27°	695.8	700.5	705.6	710.4	718.7	728.8	732.9	723.9	731.4	729.2	720.3
27.5°	680.9	688.3	693.2	699.4	704.3	716.7	720.3	712.5	717.3	716.7	707.4
28°	662.9	672.9	681.1	688.2	689.9	702.6	707.0	700.2	702.7	702.7	693.9
28.5°	644.4	658.2	668.4	674.8	674.5	689.2	694.3	686.8	687.0	689.7	680.9
29°	626.4	643.5	655.8	661.7	658.9	675.2	681.5	674.1	671.1	675.4	667.8
29.5°	608.5	626.5	642.4	648.6	642.6	660.5	668.8	660.1	654.2	660.5	654.7
30°	590.5	608.6	629.2	634.9	625.6	645.3	656.5	645.6	637.4	645.4	641.6
30.5°	572.6	590.6	615.4	620.3	607.6	629.3	643.8	630.9	619.5	629.6	628.9
31°	554.7	573.0	602.4	605.2	589.6	613.5	630.6	615.6	600.7	613.8	616.4
31.5°	537.2	555.4	589.6	590.0	571.0	597.0	617.2	600.1	582.0	596.9	603.9
32°	519.8	538.4	578.1	574.4	552.3	580.2	603.8	583.7	563.4	580.1	590.7
32.5°	502.2	521.1	566.4	558.0	533.3	562.9	591.8	566.9	544.1	562.7	576.9
33°	484.0	504.1	554.8	541.5	515.1	544.7	580.0	549.9	525.6	545.1	564.0
33.5°	466.0	487.5	542.8	524.3	496.5	526.8	568.3	532.4	506.2	526.8	551.7
34°	448.1	470.6	530.3	507.0	478.9	508.8	555.7	514.5	488.3	508.1	539.1
34.5°	429.6	453.5	517.2	489.5	461.2	490.9	542.1	496.5	470.2	490.0	526.4
35°	411.0	436.4	505.6	472.0	444.5	473.4	530.6	479.3	453.0	473.0	515.2
35.5°	392.6	419.0	492.4	454.5	427.4	456.3	519.4	461.7	434.8	454.9	503.9
36°	373.9	401.7	476.6	437.4	410.7	439.5	505.5	444.6	417.8	437.8	490.1
36.5°	357.4	384.2	461.2	420.9	394.2	423.0	492.0	427.8	400.7	420.4	475.3
37°	340.9	367.9	446.2	404.5	377.2	406.7	479.1	411.1	384.1	404.8	461.8
37.5°	324.4	351.6	430.1	388.3	359.9	390.7	464.6	395.0	366.8	388.2	446.4
38°	307.8	335.3	414.1	371.4	343.2	375.0	450.1	379.2	349.2	372.5	430.2
38.5°	292.1	319.0	398.3	356.5	326.5	359.1	435.7	363.6	332.3	356.8	413.7
39°	276.6	302.8	382.6	341.4	310.1	344.2	419.9	348.1	316.2	341.2	397.0
39.5°	261.0	287.6	366.9	326.5	294.0	328.2	404.2	332.2	299.6	325.5	379.9
40°	245.9	272.9	351.2	311.6	278.2	312.5	388.5	316.9	283.7	310.2	363.3
40.5°	230.6	258.0	335.6	296.7	263.0	297.0	372.3	301.6	267.9	294.9	346.7
41°	215.8	244.1	319.9	282.0	248.1	282.3	355.9	286.5	253.3	280.0	330.5
41.5°	201.3	229.8	304.2	267.6	233.8	267.4	339.2	271.6	238.4	264.9	314.5
42°	187.2	216.1	288.6	253.1	219.3	253.2	322.7	257.3	224.3	250.8	298.9
42.5°	173.7	202.7	273.3	239.7	205.7	238.9	306.9	243.4	210.2	237.1	283.6
43°	160.9	189.3	257.8	226.5	191.8	226.1	291.1	230.0	196.1	223.5	268.9
43.5°	148.7	176.1	242.5	213.7	178.4	212.4	276.0	216.9	182.8	210.3	254.5



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	114.8	140.6	200.3	177.3	140.5	175.1	233.3	179.8	144.8	173.6	213.2
45.5°	104.3	129.4	187.6	165.9	128.9	163.1	219.9	168.1	133.1	162.0	200.2
46°	94.6	119.3	175.0	154.4	117.9	151.5	207.1	156.9	122.0	150.7	187.4
46.5°	85.2	109.6	163.4	143.5	107.5	140.4	194.5	145.5	111.4	139.6	174.9
47°	76.3	99.8	151.9	132.7	98.2	129.6	182.6	134.8	102.3	129.2	163.1
47.5°	68.1	90.7	141.0	122.6	89.0	119.0	170.5	124.7	93.3	119.1	151.6
48°	60.5	81.9	130.3	112.9	79.8	109.4	159.3	114.6	84.3	109.5	140.7
48.5°	53.6	73.8	120.2	103.6	70.7	100.9	148.0	105.3	75.3	101.2	130.3
49°	47.4	65.9	110.4	95.0	62.8	92.2	137.5	97.0	66.3	92.9	120.4
49.5°	41.7	58.8	101.2	86.9	55.7	83.7	126.9	88.7	58.9	84.7	110.7
50°	36.7	52.3	92.0	79.0	48.9	75.2	117.0	80.4	52.0	76.4	102.5
50.5°	32.9	46.2	83.9	71.0	42.7	66.7	107.6	72.1	45.7	68.1	94.4
51°	29.1	40.7	76.0	63.9	37.1	59.7	99.3	64.6	40.0	61.4	86.3
51.5°	25.3	35.8	68.7	57.0	31.9	53.2	90.9	57.8	34.7	54.8	78.1
52°	21.5	32.1	61.8	50.7	27.3	47.2	82.5	51.3	29.6	48.7	70.0
52.5°	18.6	28.5	55.6	44.8	23.0	41.3	74.1	45.4	25.1	43.0	63.1
53°	15.9	24.7	49.3	39.1	19.2	35.9	66.9	39.6	21.1	37.6	56.7
53.5°	13.2	21.1	44.1	34.7	15.8	31.1	60.3	34.5	17.4	32.6	50.8
54°	10.8	18.3	38.9	30.3	13.1	26.6	53.8	29.5	14.6	27.9	45.2
54.5°	8.3	15.7	34.9	25.9	10.5	22.5	47.7	25.2	11.8	24.0	40.0
55°	6.1	13.2	31.1	21.5	7.9	18.9	42.2	21.1	8.9	20.1	35.3
55.5°	4.4	10.8	27.2	17.2	5.4	15.3	37.0	17.4	6.1	16.6	31.0
56°	4.0	8.4	23.3	14.0	2.7	12.8	32.1	14.6	3.3	13.9	27.1
56.5°	3.6	6.3	19.4	11.0	2.5	10.2	27.6	11.9	2.3	11.1	23.4
57°	3.2	4.4	16.4	8.4	2.4	7.7	23.6	9.1	2.2	8.5	20.2
57.5°	2.7	3.9	14.0	5.8	2.3	5.1	20.0	6.4	2.1	5.8	17.3
58°	2.3	3.5	11.8	3.8	2.2	2.5	16.7	3.7	2.0	3.0	14.8
58.5°	2.2	3.0	9.9	3.4	2.1	2.2	14.0	2.2	1.9	2.2	12.5
59°	2.1	2.6	8.2	2.9	2.0	2.1	12.2	2.0	1.8	2.0	11.0
59.5°	2.1	2.1	6.8	2.5	1.9	2.0	10.4	1.9	1.7	2.0	9.6
60°	2.0	2.0	5.8	2.0	1.9	1.9	8.7	1.8	1.7	1.9	8.0
60.5°	1.9	2.0	4.8	2.0	1.8	1.9	6.9	1.8	1.6	1.8	6.5
61°	1.8	1.9	4.0	1.9	1.7	1.8	5.1	1.7	1.6	1.7	5.0
61.5°	1.8	1.8	3.5	1.8	1.7	1.7	4.2	1.6	1.5	1.7	4.1
62°	1.7	1.8	2.9	1.7	1.6	1.7	3.5	1.6	1.4	1.6	3.5
62.5°	1.6	1.7	2.4	1.7	1.6	1.6	2.8	1.5	1.4	1.6	2.8
63°	1.6	1.6	1.9	1.6	1.5	1.5	2.3	1.5	1.3	1.5	2.3
63.5°	1.5	1.6	1.7	1.6	1.4	1.5	1.9	1.4	1.3	1.4	2.0
64°	1.5	1.5	1.6	1.5	1.4	1.4	1.6	1.4	1.3	1.4	1.7
64.5°	1.4	1.5	1.5	1.5	1.3	1.4	1.5	1.3	1.2	1.3	1.5
65°	1.4	1.4	1.5	1.4	1.3	1.3	1.4	1.3	1.2	1.3	1.5
65.5°	1.3	1.4	1.4	1.4	1.3	1.3	1.3	1.2	1.1	1.3	1.4
66°	1.3	1.3	1.3	1.3	1.2	1.2	1.3	1.2	1.1	1.2	1.3



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.1	1.2	1.2	1.2	1.1	1.1	1.2	1.1	0.9	1.1	1.2
68°	1.1	1.1	1.2	1.1	0.9	1.1	1.1	0.9	0.8	1.1	1.1
68.5°	0.9	1.1	1.1	1.1	0.9	0.9	1.1	0.9	0.8	0.9	1.1
69°	0.9	0.9	1.1	0.9	0.9	0.9	0.9	0.8	0.8	0.9	1.1
69.5°	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.8	0.7	0.8	0.9
70°	0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.7	0.8	0.9
70.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8
71°	0.7	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.8
71.5°	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.8
72°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7
72.5°	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.7
73°	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.6	0.7
73.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6
74°	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.6
74.5°	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.6
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5
76°	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.5
76.5°	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.5
77°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4
78°	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4
78.5°	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4
79°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
79.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3
80°	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3
80.5°	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3
81°	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
81.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
82°	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
82.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
83°	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2
83.5°	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
84°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
84.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
85°	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
85.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
86°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
86.5°	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
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: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-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: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1130.5	1130.5	1130.5	1130.5	1130.5	1130.5
0.5°	1130.3	1130.3	1129.7	1129.1	1129.8	1130.3
1°	1129.9	1129.8	1128.9	1128.0	1129.0	1129.2
1.5°	1129.2	1129.1	1127.9	1126.8	1127.6	1128.0
2°	1128.2	1127.9	1126.5	1125.0	1126.1	1126.2
2.5°	1126.8	1126.3	1124.6	1123.1	1124.2	1124.2
3°	1125.1	1124.5	1122.4	1120.6	1122.2	1122.2
3.5°	1123.2	1122.3	1120.0	1118.1	1119.9	1119.7
4°	1120.9	1120.0	1117.3	1115.1	1117.2	1117.0
4.5°	1118.1	1117.0	1114.1	1112.0	1114.0	1113.6
5°	1115.2	1113.7	1110.8	1108.4	1110.7	1109.9
5.5°	1111.7	1110.2	1106.9	1104.5	1106.7	1105.8
6°	1107.9	1106.2	1102.7	1100.5	1102.5	1101.3
6.5°	1103.6	1101.6	1098.2	1095.7	1097.8	1096.6
7°	1099.0	1096.7	1093.0	1090.5	1092.7	1091.2
7.5°	1093.8	1091.5	1087.8	1085.1	1087.5	1085.8
8°	1088.4	1085.6	1081.7	1079.3	1081.7	1079.8
8.5°	1082.4	1079.3	1075.4	1073.1	1075.8	1073.4
9°	1076.0	1072.2	1068.7	1066.6	1069.1	1066.1
9.5°	1069.2	1065.1	1061.5	1059.7	1062.1	1059.0
10°	1062.0	1057.7	1053.8	1051.8	1054.9	1052.2
10.5°	1054.7	1049.8	1045.9	1044.9	1047.6	1044.6
11°	1046.9	1042.1	1038.0	1036.7	1040.2	1037.1
11.5°	1039.1	1033.7	1029.7	1028.0	1032.4	1029.4
12°	1030.7	1025.4	1021.1	1018.8	1024.3	1021.9
12.5°	1022.5	1017.3	1012.3	1009.8	1016.2	1014.1
13°	1014.1	1009.0	1003.5	1000.3	1008.1	1005.9
13.5°	1005.6	1000.8	994.9	990.6	999.7	997.7
14°	997.0	992.4	985.9	980.4	991.0	989.4
14.5°	988.3	984.1	977.3	970.5	982.4	980.9
15°	979.7	975.0	968.1	960.2	973.5	972.4
15.5°	970.8	966.1	958.8	950.0	964.2	963.8
16°	961.7	957.2	949.2	939.7	955.1	954.5
16.5°	952.4	947.9	939.9	929.6	945.7	945.2
17°	942.6	938.2	930.1	919.2	936.0	935.5
17.5°	933.1	928.5	920.1	909.0	926.2	925.4
18°	923.0	917.9	909.7	898.7	916.1	914.3
18.5°	913.0	907.0	899.3	888.2	905.6	902.9
19°	902.3	896.3	888.4	877.8	894.5	891.2
19.5°	891.3	885.1	877.2	867.3	882.9	880.2
20°	880.3	873.6	866.1	856.1	871.1	868.7
20.5°	868.7	862.3	854.3	845.4	859.4	857.6
21°	857.3	850.7	842.8	834.5	847.2	846.7

TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	822.1	815.9	806.5	801.4	811.3	812.5
23°	809.7	804.3	794.2	790.0	799.3	799.3
23.5°	797.6	792.5	781.9	778.5	787.6	785.3
24°	785.4	779.1	769.9	766.4	775.2	772.0
24.5°	773.2	765.0	757.5	753.7	762.1	760.4
25°	761.1	751.8	744.5	741.1	748.2	748.9
25.5°	749.0	740.3	731.1	728.5	734.3	737.4
26°	734.9	729.1	716.9	715.7	720.1	725.3
26.5°	720.7	715.1	703.6	702.3	707.8	710.3
27°	707.5	700.0	691.7	689.5	695.8	695.8
27.5°	695.2	686.2	679.7	676.1	684.1	680.9
28°	683.3	668.8	665.6	662.9	671.8	662.9
28.5°	669.7	651.0	650.3	650.0	658.0	644.4
29°	654.0	632.9	636.5	637.5	643.0	626.4
29.5°	640.1	615.0	619.8	624.9	629.1	608.5
30°	623.1	597.3	602.3	612.3	612.8	590.5
30.5°	606.4	579.8	584.3	599.3	596.0	572.6
31°	588.3	562.3	566.9	585.9	578.7	554.7
31.5°	571.0	544.7	549.7	571.3	561.1	537.2
32°	554.1	527.6	532.8	557.0	543.9	519.8
32.5°	537.5	510.6	515.5	543.5	526.9	502.2
33°	520.0	493.2	499.4	531.2	510.6	484.0
33.5°	504.0	475.4	483.1	520.7	494.0	466.0
34°	487.3	457.2	466.9	510.5	477.6	448.1
34.5°	471.5	438.9	450.0	497.0	460.9	429.6
35°	454.5	420.7	433.8	484.6	444.8	411.0
35.5°	438.3	402.7	416.8	471.9	428.3	392.6
36°	421.3	384.8	400.1	455.5	412.1	373.9
36.5°	405.2	368.1	383.0	440.1	395.4	357.4
37°	387.8	351.4	367.0	423.8	379.4	340.9
37.5°	370.9	334.8	350.9	406.3	363.4	324.4
38°	354.0	318.1	334.9	388.6	347.3	307.8
38.5°	337.8	301.5	319.0	370.8	331.4	292.1
39°	321.8	286.3	303.0	355.0	315.4	276.6
39.5°	306.5	271.2	288.0	339.3	299.4	261.0
40°	291.2	255.7	273.9	323.6	284.9	245.9
40.5°	276.7	240.3	259.5	307.9	270.4	230.6
41°	262.6	225.9	245.7	293.1	256.6	215.8
41.5°	248.8	210.4	232.0	278.7	242.5	201.3
42°	235.1	197.0	218.4	264.6	229.1	187.2
42.5°	221.5	183.3	205.1	251.1	215.9	173.7
43°	208.1	170.6	191.8	237.4	203.3	160.9
43.5°	195.2	157.5	179.1	224.2	190.5	148.7



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	158.4	123.3	143.9	185.7	154.1	114.8
45.5°	147.1	112.4	133.2	173.9	143.1	104.3
46°	136.3	102.5	123.0	162.1	132.3	94.6
46.5°	125.9	92.9	113.1	151.3	122.2	85.2
47°	115.9	83.6	103.7	140.7	112.3	76.3
47.5°	106.4	74.8	94.3	130.7	102.6	68.1
48°	97.8	67.2	85.6	120.9	93.8	60.5
48.5°	89.2	59.8	77.4	112.1	85.1	53.6
49°	80.6	53.2	69.7	103.5	76.9	47.4
49.5°	72.1	47.2	62.5	95.5	68.9	41.7
50°	64.6	41.6	55.7	87.4	62.2	36.7
50.5°	57.7	36.6	49.5	80.1	55.6	32.9
51°	51.6	32.9	43.9	72.8	49.3	29.1
51.5°	45.7	29.2	39.0	66.3	43.4	25.3
52°	40.2	25.6	35.3	60.1	38.5	21.5
52.5°	35.4	22.0	31.6	54.1	34.7	18.6
53°	31.1	19.0	27.9	48.4	30.9	15.9
53.5°	27.3	16.3	24.3	43.4	27.1	13.2
54°	23.8	13.7	20.6	38.7	23.3	10.8
54.5°	20.8	11.2	18.0	34.9	19.5	8.3
55°	18.1	8.8	15.3	31.2	16.8	6.1
55.5°	15.4	6.5	12.9	27.4	14.4	4.4
56°	13.4	4.8	10.4	23.7	12.0	4.0
56.5°	11.5	3.5	8.2	20.0	9.8	3.6
57°	9.5	3.3	6.0	17.1	7.7	3.2
57.5°	7.5	3.0	4.3	14.7	5.7	2.7
58°	5.5	2.9	3.9	12.5	4.0	2.3
58.5°	3.5	2.7	3.5	10.5	3.6	2.2
59°	2.7	2.6	3.2	8.8	3.2	2.1
59.5°	2.5	2.5	2.7	7.4	2.6	2.1
60°	2.4	2.3	2.4	6.1	2.2	2.0
60.5°	2.3	2.2	2.3	5.0	2.1	1.9
61°	2.2	2.1	2.2	4.2	2.0	1.8
61.5°	2.1	2.0	2.1	3.7	1.9	1.8
62°	2.0	2.0	2.0	3.2	1.8	1.7
62.5°	1.9	1.9	1.9	2.6	1.8	1.6
63°	1.8	1.8	1.8	2.1	1.7	1.6
63.5°	1.7	1.7	1.7	1.8	1.6	1.5
64°	1.7	1.6	1.7	1.6	1.6	1.5
64.5°	1.6	1.6	1.6	1.6	1.5	1.4
65°	1.5	1.5	1.5	1.5	1.5	1.4
65.5°	1.5	1.5	1.5	1.5	1.4	1.3
66°	1.4	1.4	1.4	1.4	1.4	1.3



TEST NUMBER: P775693

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.3	1.2	1.3	1.2	1.2	1.1
68°	1.2	1.2	1.2	1.2	1.2	1.1
68.5°	1.2	1.1	1.2	1.1	1.1	0.9
69°	1.1	1.1	1.1	1.1	1.1	0.9
69.5°	1.1	1.1	1.1	1.1	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9	0.8
70.5°	0.9	0.9	0.9	0.9	0.9	0.8
71°	0.8	0.8	0.8	0.8	0.8	0.7
71.5°	0.8	0.8	0.8	0.8	0.8	0.7
72°	0.8	0.8	0.8	0.8	0.7	0.7
72.5°	0.7	0.7	0.7	0.7	0.7	0.6
73°	0.7	0.7	0.7	0.7	0.7	0.6
73.5°	0.7	0.7	0.7	0.7	0.6	0.6
74°	0.6	0.6	0.6	0.6	0.6	0.5
74.5°	0.6	0.6	0.6	0.6	0.6	0.5
75°	0.6	0.6	0.6	0.6	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.4
76.5°	0.5	0.5	0.5	0.5	0.5	0.4
77°	0.5	0.4	0.5	0.5	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.3
78.5°	0.4	0.4	0.4	0.4	0.3	0.3
79°	0.3	0.3	0.4	0.4	0.3	0.3
79.5°	0.3	0.3	0.3	0.3	0.3	0.3
80°	0.3	0.3	0.3	0.3	0.3	0.2
80.5°	0.3	0.3	0.3	0.3	0.2	0.2
81°	0.3	0.3	0.3	0.3	0.2	0.2
81.5°	0.2	0.2	0.2	0.2	0.2	0.2
82°	0.2	0.2	0.2	0.2	0.2	0.2
82.5°	0.2	0.2	0.2	0.2	0.1	0.1
83°	0.2	0.2	0.2	0.2	0.1	0.1
83.5°	0.2	0.2	0.2	0.2	0.1	0.1
84°	0.1	0.1	0.1	0.1	0.1	0.1
84.5°	0.1	0.1	0.1	0.1	0.1	0.1
85°	0.1	0.1	0.1	0.1	0.0	0.1
85.5°	0.1	0.1	0.1	0.1	0.0	0.0
86°	0.1	0.1	0.1	0.1	0.0	0.0
86.5°	0.1	0.1	0.1	0.1	0.0	0.0
87°	0.0	0.1	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: P775693
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-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°	835.9	835.8	836.6	841.7	845.4	857.4	858.4	856.0	860.1	860.5	848.6
22°	824.7	824.0	825.9	830.4	835.1	845.7	847.6	844.9	849.1	848.9	837.7



44°	136.8	163.8	227.8	201.0	165.4	199.8	261.0	203.9	169.9	197.5	240.6
44.5°	125.3	151.9	213.6	189.2	152.5	187.2	246.8	191.7	157.3	185.4	226.6



66.5°	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.2	1.3
67°	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.1	0.9	1.1	1.2



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°	845.7	838.7	830.8	823.3	835.3	835.9
22°	833.8	827.3	818.8	812.5	823.3	824.7



44°	182.6	145.8	166.9	211.0	177.7	136.8
44.5°	170.1	134.5	155.4	198.4	165.5	125.3



66.5°	1.4	1.3	1.4	1.3	1.3	1.2
67°	1.3	1.3	1.3	1.3	1.3	1.2

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)