

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: P775714

Luminaire Tested: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775714  
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-HCD4TSQMW-1000lm-5000K  
Description: 4 INCH SQUARE MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

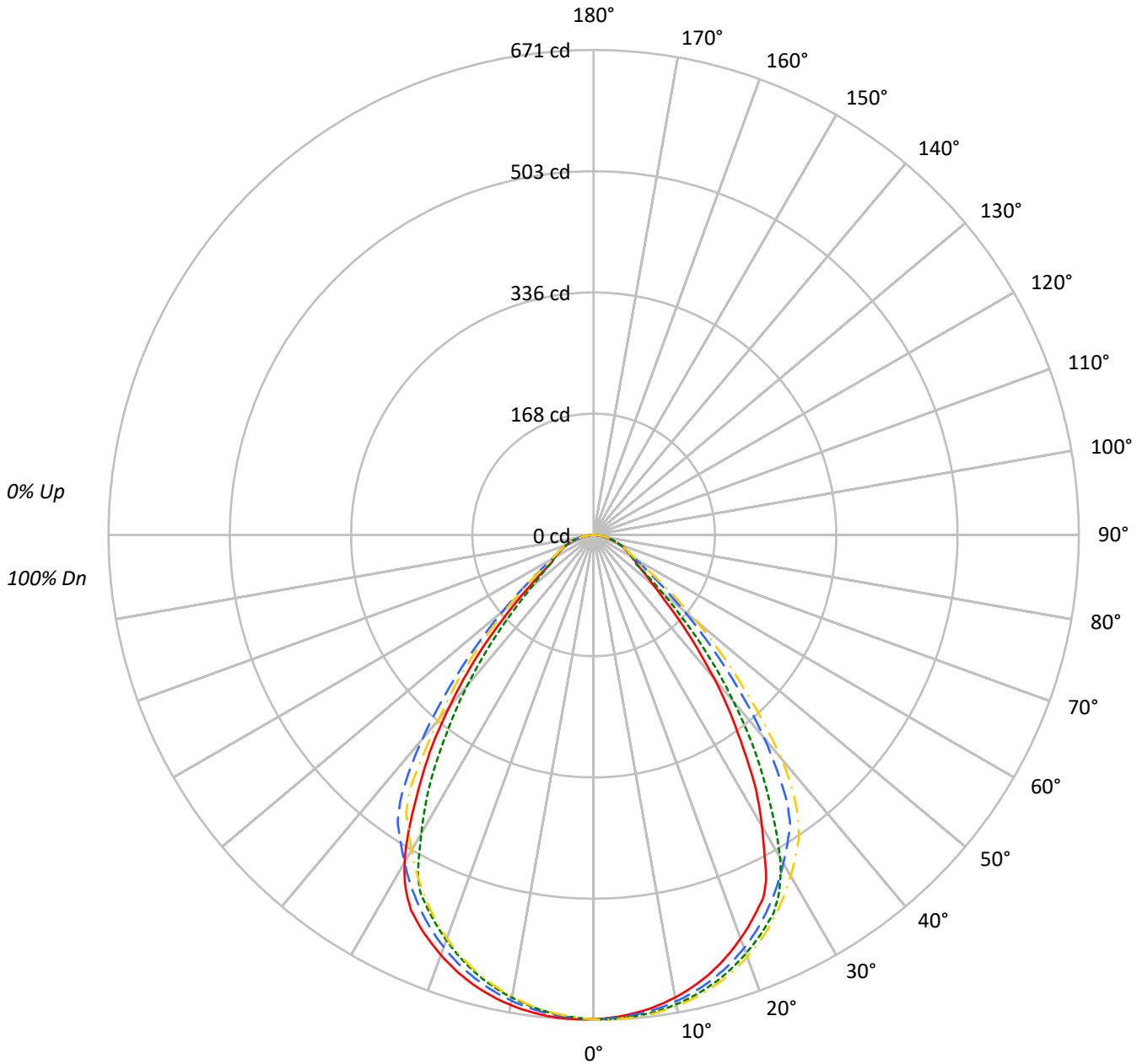
Lumens per Lamp: N/A  
Luminaire Lumens: 1107.9 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.13 / 1.17  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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: P775714  
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

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

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

	0°	90°	180°	270°
0°	66214	66214	66214	66214
5°	65872	66318	66388	65902
10°	65218	66182	66292	65279
15°	64150	65705	65890	64263
20°	62501	64805	65036	62743
25°	60507	63560	63746	60747
30°	53129	58824	59703	54442
35°	43584	49303	50365	45249
40°	33431	38877	40051	35083
45°	23498	28208	29341	25021
50°	16623	18883	19852	17222
55°	13148	12993	13769	13424
60°	12336	11960	12158	12316
65°	11624	11460	11554	11905
70°	10722	11011	10866	11531
75°	9662	10426	10006	11113
80°	7627	9677	8652	10417
85°	3742	7825	5217	9186

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 39685 cd/sqm



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	63.2	5.7
10°-20°	178.9	16.2
20°-30°	260.8	23.5
30°-40°	262.4	23.7
40°-50°	172.0	15.5
50°-60°	83.3	7.5
60°-70°	50.7	4.6
70°-80°	29.2	2.6
80°-90°	7.3	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°	503.0	45.4
0°-40°	765.4	69.1
0°-60°	1020.7	92.1
0°-90°	1107.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1107.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	670	670	670	670	670	
5°	664	668	669	664	664	63
15°	627	642	644	628	627	176
25°	555	583	584	557	555	250
35°	361	409	417	375	361	225
45°	168	202	210	179	168	132
55°	76	75	80	78	76	71
65°	50	49	49	51	50	49
75°	25	27	26	29	25	27
85°	3	7	5	8	3	5
90°	0	0	0	0	0	



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	669.9	669.9	669.9	669.9	669.9	669.9	669.9	669.9	669.9	669.9	669.9
0.5°	669.8	669.6	669.7	669.7	670.1	670.3	670.5	670.6	670.4	669.9	669.6
1°	669.5	669.3	669.6	669.8	670.3	670.5	670.7	670.8	670.5	669.9	669.5
1.5°	669.0	669.0	669.5	669.8	670.3	670.6	670.9	670.9	670.6	669.9	669.3
2°	668.4	668.5	669.3	669.8	670.3	670.6	670.9	670.9	670.6	669.8	669.0
2.5°	667.9	668.1	669.0	669.6	670.1	670.6	670.9	670.9	670.6	669.7	668.7
3°	667.2	667.5	668.5	669.4	669.8	670.5	670.8	670.9	670.4	669.5	668.2
3.5°	666.5	666.8	668.1	669.2	669.6	670.3	670.7	670.7	670.1	669.2	667.7
4°	665.8	666.2	667.6	668.9	669.3	670.0	670.5	670.6	669.9	668.8	667.3
4.5°	664.8	665.3	666.9	668.4	669.0	669.6	670.3	670.3	669.6	668.3	666.6
5°	663.9	664.5	666.2	667.9	668.4	669.3	669.8	669.8	669.1	667.8	665.8
5.5°	662.9	663.5	665.5	667.4	667.9	668.8	669.4	669.4	668.7	667.3	665.0
6°	661.8	662.6	664.7	666.7	667.3	668.1	668.9	668.9	668.0	666.5	664.2
6.5°	660.7	661.5	663.9	666.1	666.5	667.6	668.2	668.2	667.3	665.8	663.2
7°	659.3	660.2	662.9	665.3	665.7	666.8	667.6	667.6	666.6	665.0	662.1
7.5°	657.9	658.9	661.8	664.5	664.8	666.1	666.8	666.7	665.8	664.1	661.1
8°	656.5	657.7	660.5	663.5	663.9	665.2	666.0	665.9	664.9	663.1	659.9
8.5°	654.9	656.1	659.5	662.6	662.9	664.3	665.0	665.0	664.0	662.0	658.6
9°	653.3	654.6	658.2	661.5	661.8	663.3	664.1	664.1	662.9	661.0	657.3
9.5°	651.6	653.0	656.8	660.2	660.7	662.3	663.0	662.9	661.7	659.7	656.0
10°	649.8	651.4	655.3	659.1	659.4	661.0	661.9	661.8	660.5	658.4	654.5
10.5°	647.9	649.6	653.8	657.7	658.0	659.7	660.7	660.5	659.3	657.1	652.9
11°	645.9	647.6	652.2	656.3	656.6	658.3	659.4	659.3	658.0	655.6	651.2
11.5°	643.9	645.7	650.5	654.8	655.0	656.9	658.0	657.8	656.5	654.2	649.5
12°	641.7	643.7	648.7	653.2	653.4	655.5	656.6	656.3	654.9	652.6	647.6
12.5°	639.4	641.6	646.8	651.5	651.7	653.9	655.0	654.7	653.3	650.8	645.7
13°	637.1	639.4	644.9	649.9	650.0	652.1	653.4	653.1	651.6	649.1	643.8
13.5°	634.7	637.1	643.0	648.0	648.2	650.5	651.7	651.3	649.8	647.2	641.7
14°	632.3	634.6	640.7	646.2	646.3	648.6	649.9	649.5	647.9	645.2	639.5
14.5°	629.6	632.1	638.6	644.1	644.2	646.6	648.0	647.6	645.9	643.2	637.3
15°	626.9	629.5	636.2	642.1	642.1	644.7	646.0	645.5	643.9	641.1	635.0
15.5°	624.0	626.9	633.9	640.0	640.0	642.6	644.0	643.5	641.7	638.9	632.5
16°	621.1	624.1	631.3	637.7	637.6	640.3	641.9	641.2	639.4	636.7	630.1
16.5°	618.0	621.2	628.8	635.3	635.2	638.0	639.6	639.0	637.1	634.2	627.4
17°	614.9	618.2	626.2	632.9	632.7	635.6	637.3	636.8	634.7	631.8	624.7
17.5°	611.6	615.1	623.4	630.5	630.2	633.3	634.9	634.3	632.1	629.2	621.9
18°	608.4	612.0	620.6	627.8	627.5	630.7	632.3	631.7	629.4	626.5	619.1
18.5°	604.9	608.6	617.7	625.1	624.8	627.9	629.7	629.0	626.9	623.9	616.1
19°	601.5	605.3	614.6	622.5	621.9	625.0	627.1	626.2	624.1	621.0	613.1
19.5°	597.9	601.8	611.5	619.5	619.1	622.5	624.3	623.3	621.3	618.0	610.0
20°	594.2	598.4	608.3	616.5	616.1	619.4	621.3	620.6	618.3	615.0	606.7
20.5°	590.6	594.8	604.9	613.4	613.0	616.4	618.4	617.5	615.2	611.9	603.3
21°	586.9	591.0	601.5	610.3	609.8	613.3	615.3	614.4	612.1	608.8	600.0



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	574.9	579.5	590.7	600.3	600.1	603.6	605.5	604.8	602.4	598.8	589.2
23°	570.9	575.6	586.8	597.0	596.6	600.2	602.1	601.4	599.0	595.3	585.4
23.5°	566.8	571.4	582.8	593.5	593.1	596.8	598.6	597.9	595.7	591.7	581.4
24°	562.5	567.3	578.9	589.9	589.5	593.3	595.0	594.3	592.2	588.0	577.5
24.5°	558.7	563.2	574.8	586.2	585.9	589.6	591.1	590.7	588.5	584.4	573.4
25°	554.8	558.9	570.6	582.4	582.8	586.0	587.3	587.0	584.5	580.7	569.2
25.5°	548.4	554.7	566.3	578.6	578.6	582.3	583.5	583.4	580.9	576.8	565.0
26°	541.3	550.5	561.9	574.7	572.8	578.3	579.4	579.5	577.3	572.9	560.5
26.5°	534.7	546.6	557.5	570.8	567.9	574.6	575.4	575.5	570.8	568.8	556.2
27°	524.8	541.6	553.1	566.6	562.2	571.1	571.2	571.4	565.8	564.6	551.7
27.5°	514.4	533.9	548.5	563.0	555.8	566.2	567.0	567.7	560.2	560.7	547.1
28°	504.0	527.7	543.8	558.9	548.7	560.3	562.6	562.3	553.8	555.9	542.4
28.5°	494.0	519.3	539.1	552.9	541.3	555.4	558.3	556.2	547.0	549.7	537.8
29°	484.3	509.2	534.4	547.4	533.3	549.3	553.9	551.3	539.5	544.4	532.9
29.5°	474.9	499.1	529.7	542.0	524.8	542.7	549.4	545.3	531.6	538.7	528.2
30°	465.5	489.0	524.8	535.7	515.4	535.8	544.9	538.6	523.1	532.2	523.3
30.5°	456.4	479.1	520.0	528.9	505.4	528.4	540.4	531.6	514.0	525.1	518.4
31°	447.2	469.4	515.1	521.4	495.1	520.3	535.8	524.3	504.2	517.9	513.5
31.5°	437.8	460.2	510.1	513.8	484.2	512.2	531.1	516.3	493.6	510.0	508.6
32°	427.6	450.9	505.3	505.6	473.2	503.3	526.3	507.8	482.6	501.8	503.6
32.5°	417.7	442.0	500.2	497.0	462.0	493.5	521.6	498.9	471.6	492.7	498.5
33°	406.9	432.7	495.5	487.4	450.9	483.3	516.7	489.2	460.6	483.3	493.5
33.5°	395.6	423.4	490.9	478.0	440.0	472.8	512.1	479.1	449.3	473.2	488.5
34°	383.7	413.5	486.2	467.8	429.4	462.0	507.5	468.5	438.2	462.9	484.1
34.5°	372.7	403.5	478.8	457.0	418.9	451.2	501.6	457.6	427.7	452.2	478.4
35°	361.2	393.0	470.3	446.2	408.6	440.5	493.9	446.5	417.4	441.1	470.0
35.5°	350.5	382.0	463.1	435.6	398.4	429.8	487.2	436.1	407.4	430.4	462.3
36°	339.8	370.7	453.9	425.0	388.1	419.5	480.5	425.4	397.1	420.0	455.3
36.5°	329.8	359.5	443.5	414.6	377.7	409.1	472.4	415.0	386.5	409.6	445.9
37°	319.7	348.6	432.8	404.0	367.0	398.9	464.0	404.6	376.5	399.3	435.4
37.5°	309.9	338.4	421.7	394.0	356.1	389.1	455.2	394.7	365.7	389.5	424.7
38°	300.0	327.8	410.8	384.0	345.0	378.7	445.8	384.6	354.7	379.5	413.8
38.5°	290.1	318.0	399.8	374.0	334.1	368.7	436.3	374.9	343.4	369.8	402.5
39°	279.9	308.3	389.1	364.1	323.3	358.6	425.9	364.6	332.4	359.9	391.5
39.5°	269.6	298.8	378.2	354.0	312.3	348.0	415.1	354.3	321.5	349.9	380.1
40°	259.1	288.7	366.9	344.1	301.3	337.6	403.8	343.7	310.4	339.7	368.7
40.5°	248.9	279.4	355.6	333.8	290.8	326.9	392.2	333.1	299.7	329.2	357.0
41°	238.8	269.6	344.1	323.4	280.7	316.1	379.9	322.2	289.2	318.6	345.5
41.5°	229.2	259.8	332.8	313.1	270.4	305.8	367.4	311.6	279.3	308.1	334.0
42°	219.6	249.9	321.2	302.6	260.4	295.6	354.9	301.0	269.0	297.8	322.3
42.5°	210.7	240.2	309.5	292.4	250.4	285.3	342.4	290.4	259.1	287.8	310.9
43°	201.8	230.5	297.8	282.2	240.3	275.2	330.3	280.4	249.4	277.8	299.8
43.5°	193.2	221.1	286.2	272.5	230.5	265.4	318.3	270.5	239.4	268.2	288.0



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	168.1	194.7	253.0	243.9	201.8	236.7	283.9	241.5	209.9	240.0	255.6
45.5°	160.4	186.4	242.5	234.7	192.5	226.9	273.4	232.2	200.7	231.2	245.0
46°	152.9	178.2	232.6	225.5	183.5	217.7	263.0	222.6	191.4	221.8	235.0
46.5°	145.8	170.2	223.0	216.5	174.7	208.8	252.5	213.3	182.5	212.6	225.1
47°	138.8	162.4	213.7	207.5	166.3	199.6	242.5	203.9	174.0	203.7	215.7
47.5°	132.6	154.8	204.6	198.6	158.2	190.9	232.4	194.7	165.8	194.9	206.4
48°	126.9	147.6	195.6	189.9	150.4	182.2	222.3	186.1	157.8	186.3	197.3
48.5°	121.7	140.5	186.8	181.2	143.2	173.6	212.8	177.5	150.3	178.0	188.4
49°	116.9	133.9	178.5	172.9	136.1	165.5	202.9	169.3	142.9	169.9	179.9
49.5°	112.3	127.8	170.4	165.1	129.3	157.3	193.4	161.0	135.9	162.2	171.7
50°	108.1	122.0	162.4	157.4	122.8	149.7	184.4	153.4	129.1	154.5	163.8
50.5°	104.4	116.6	154.6	149.9	116.5	142.1	175.4	145.8	122.6	147.3	155.9
51°	100.9	111.9	147.3	143.0	110.7	135.1	167.0	138.6	116.5	140.2	148.6
51.5°	97.5	107.4	140.2	135.9	105.3	128.4	158.8	131.8	110.9	133.6	141.6
52°	94.3	103.4	133.5	129.4	100.2	122.0	151.0	125.4	105.6	127.2	134.9
52.5°	91.1	99.6	127.3	122.9	96.0	115.7	143.2	118.8	100.4	120.8	128.5
53°	88.1	96.1	121.2	116.8	91.7	109.8	136.2	112.7	95.9	115.0	122.3
53.5°	84.9	92.8	115.6	110.7	87.4	104.2	129.1	107.2	91.8	109.3	116.5
54°	81.9	89.7	110.0	105.1	83.2	98.9	122.6	101.8	87.9	103.9	111.0
54.5°	79.0	86.6	105.0	99.8	79.0	94.7	116.2	96.7	83.8	98.7	106.0
55°	76.3	83.6	100.2	94.8	75.4	90.3	110.5	92.4	79.9	94.6	101.2
55.5°	74.0	80.6	95.8	90.3	72.5	86.0	104.6	88.3	76.2	90.4	96.5
56°	72.3	77.7	91.5	85.9	70.3	81.7	99.2	84.1	73.1	86.3	92.7
56.5°	71.0	74.9	87.5	82.0	68.9	77.4	94.8	80.0	70.6	82.2	88.7
57°	69.8	72.4	83.9	78.3	67.6	73.8	90.3	76.2	68.9	78.1	84.8
57.5°	68.6	70.2	80.4	74.7	66.4	70.6	85.9	72.8	67.6	74.5	80.9
58°	67.4	68.7	77.3	71.4	65.3	68.0	81.6	69.9	66.4	71.3	77.8
58.5°	66.2	67.4	74.5	68.8	64.1	66.4	77.1	67.5	65.3	68.8	74.9
59°	64.9	66.1	71.9	67.1	62.8	65.0	73.8	65.9	64.0	66.7	72.1
59.5°	63.7	64.9	69.5	65.7	61.6	63.9	70.8	64.5	62.8	65.4	69.6
60°	62.4	63.8	67.3	64.4	60.5	62.7	68.1	63.3	61.5	64.1	67.3
60.5°	61.0	62.5	65.3	63.2	59.3	61.4	65.8	62.1	60.4	62.9	65.1
61°	59.8	61.2	63.3	61.9	58.1	60.2	63.8	60.9	59.1	61.7	63.2
61.5°	58.5	59.9	61.5	60.7	56.9	59.1	61.7	59.7	57.8	60.5	61.4
62°	57.3	58.6	59.9	59.5	55.9	57.9	59.9	58.4	56.6	59.3	59.7
62.5°	55.9	57.3	58.2	58.3	54.7	56.7	58.2	57.2	55.4	58.0	58.0
63°	54.7	56.0	56.7	57.2	53.5	55.4	56.6	56.0	54.2	56.7	56.5
63.5°	53.4	54.7	55.2	55.9	52.4	54.3	55.1	54.7	53.0	55.6	55.1
64°	52.1	53.4	54.0	54.7	51.3	53.1	53.6	53.4	51.8	54.3	53.7
64.5°	50.9	52.2	52.7	53.5	50.1	51.9	52.4	52.2	50.5	53.0	52.5
65°	49.7	50.9	51.5	52.4	49.0	50.9	51.2	51.0	49.4	51.8	51.2
65.5°	48.4	49.6	50.3	51.2	47.9	49.7	49.9	49.8	48.2	50.5	50.0
66°	47.1	48.4	49.0	50.0	46.8	48.5	48.7	48.5	47.0	49.4	48.8





TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	43.4	44.6	45.4	46.5	43.5	45.1	45.2	44.9	43.5	45.7	45.3
68°	42.2	43.3	44.2	45.3	42.4	43.9	43.9	43.7	42.3	44.6	44.1
68.5°	40.9	42.0	43.0	44.1	41.3	42.9	42.8	42.5	41.2	43.3	43.0
69°	39.8	40.8	41.8	43.0	40.2	41.7	41.6	41.4	40.0	42.1	41.7
69.5°	38.3	39.6	40.5	41.9	39.1	40.5	40.4	40.1	38.8	40.9	40.5
70°	37.1	38.7	39.3	40.7	38.1	39.5	39.1	38.9	37.6	39.8	39.3
70.5°	36.0	37.4	38.1	39.6	37.0	38.4	38.0	37.7	36.6	38.6	38.2
71°	34.9	36.1	36.9	38.6	35.9	37.2	36.8	36.6	35.4	37.4	37.0
71.5°	33.8	34.8	35.7	37.4	34.9	36.0	35.6	35.4	34.2	36.1	35.8
72°	32.5	33.5	34.5	36.4	33.8	35.0	34.4	34.2	33.1	35.0	34.7
72.5°	31.3	32.2	33.4	35.2	32.7	33.9	33.3	33.1	32.0	33.8	33.5
73°	30.1	31.0	32.2	34.1	31.6	32.8	32.1	31.9	30.8	32.6	32.3
73.5°	28.9	29.7	31.0	32.9	30.5	31.7	31.0	30.7	29.6	31.5	31.1
74°	27.6	28.6	29.9	31.9	29.5	30.6	29.9	29.5	28.6	30.3	30.0
74.5°	26.4	27.3	28.6	30.7	28.5	29.5	28.7	28.4	27.4	29.1	28.9
75°	25.3	26.0	27.4	29.6	27.3	28.4	27.6	27.2	26.2	27.9	27.7
75.5°	24.1	24.8	26.2	28.5	26.2	27.3	26.4	26.0	25.2	26.8	26.5
76°	22.8	23.6	25.1	27.4	25.2	26.2	25.3	24.8	24.0	25.6	25.4
76.5°	21.6	22.4	23.9	26.3	24.2	25.2	24.2	23.7	22.9	24.5	24.2
77°	20.5	21.1	22.7	25.2	23.1	24.1	23.1	22.5	21.8	23.4	23.0
77.5°	19.3	19.9	21.5	24.1	22.1	23.0	22.1	21.3	20.7	22.2	22.0
78°	18.1	18.7	20.5	22.9	21.0	21.9	20.9	20.2	19.6	21.0	20.8
78.5°	17.0	17.5	19.3	21.9	19.9	20.8	19.8	19.0	18.4	19.8	19.6
79°	15.8	16.2	18.2	20.7	19.0	19.7	18.8	17.8	17.4	18.7	18.6
79.5°	14.6	15.0	17.1	19.6	17.9	18.7	17.7	16.6	16.3	17.6	17.5
80°	13.4	13.9	16.0	18.6	17.0	17.6	16.6	15.6	15.2	16.4	16.4
80.5°	12.4	12.7	14.9	17.4	15.9	16.5	15.7	14.4	14.2	15.2	15.2
81°	11.2	11.4	13.9	16.3	14.9	15.5	14.6	13.3	13.1	14.1	14.3
81.5°	10.0	10.2	12.8	15.2	13.9	14.5	13.6	12.4	12.0	13.0	13.2
82°	8.8	9.2	11.7	14.2	12.9	13.4	12.6	11.3	10.9	11.8	12.2
82.5°	7.8	8.1	10.8	13.2	11.9	12.5	11.6	10.3	9.8	10.7	11.2
83°	6.6	7.1	9.8	12.2	11.0	11.4	10.7	9.4	8.8	9.7	10.2
83.5°	5.4	6.1	8.8	11.2	9.9	10.4	9.8	8.4	7.8	8.6	9.4
84°	4.4	5.2	7.9	10.1	9.0	9.4	8.8	7.5	6.7	7.6	8.5
84.5°	3.8	4.4	7.0	9.2	8.0	8.4	8.0	6.6	5.7	6.6	7.7
85°	3.3	3.7	6.2	8.1	6.9	7.5	7.0	5.7	4.6	5.5	6.8
85.5°	2.7	3.1	5.2	7.1	6.0	6.4	6.2	4.8	3.8	4.7	5.9
86°	2.1	2.6	4.4	6.1	5.0	5.4	5.3	4.2	3.2	4.1	5.1
86.5°	1.6	2.0	3.6	5.1	4.1	4.5	4.5	3.5	2.8	3.5	4.3
87°	1.2	1.4	2.8	4.2	3.1	3.5	3.6	2.9	2.3	3.0	3.4
87.5°	0.6	0.9	2.0	3.2	2.1	2.6	2.8	2.2	1.8	2.3	2.6
88°	0.2	0.3	1.2	2.3	1.3	1.6	1.9	1.7	1.4	1.8	1.8
88.5°	0.0	0.1	0.4	1.4	0.4	0.7	1.1	1.1	1.0	1.3	1.0



TEST NUMBER: P775714  
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	669.9	669.9	669.9	669.9	669.9	669.9
0.5°	669.2	669.7	669.7	669.8	669.9	669.8
1°	669.0	669.4	669.3	669.4	669.6	669.5
1.5°	668.5	669.0	668.8	668.9	669.1	669.0
2°	668.1	668.5	668.2	668.2	668.4	668.4
2.5°	667.6	668.0	667.6	667.6	667.8	667.9
3°	666.9	667.4	666.8	666.8	667.1	667.2
3.5°	666.2	666.7	666.2	666.1	666.3	666.5
4°	665.5	665.9	665.3	665.2	665.5	665.8
4.5°	664.6	665.1	664.4	664.3	664.5	664.8
5°	663.6	664.2	663.3	663.3	663.5	663.9
5.5°	662.7	663.2	662.3	662.1	662.5	662.9
6°	661.6	662.0	661.1	661.0	661.3	661.8
6.5°	660.4	660.9	659.9	659.8	660.0	660.7
7°	659.2	659.6	658.5	658.4	658.7	659.3
7.5°	657.8	658.3	657.1	657.0	657.2	657.9
8°	656.4	656.8	655.6	655.5	655.9	656.5
8.5°	654.9	655.3	654.0	653.9	654.3	654.9
9°	653.4	653.7	652.4	652.2	652.6	653.3
9.5°	651.7	652.0	650.7	650.5	650.8	651.6
10°	649.9	650.4	648.9	648.6	649.0	649.8
10.5°	648.1	648.6	647.0	646.8	647.0	647.9
11°	646.2	646.6	645.1	644.8	645.1	645.9
11.5°	644.2	644.6	643.0	642.6	643.1	643.9
12°	642.1	642.5	640.8	640.5	640.8	641.7
12.5°	640.0	640.3	638.6	638.3	638.5	639.4
13°	637.7	638.0	636.2	635.9	636.2	637.1
13.5°	635.3	635.7	633.9	633.6	633.8	634.7
14°	632.9	633.3	631.3	631.0	631.3	632.3
14.5°	630.4	630.7	628.8	628.3	628.6	629.6
15°	627.8	628.0	626.1	625.7	625.8	626.9
15.5°	625.0	625.3	623.2	622.9	622.9	624.0
16°	622.3	622.5	620.3	620.0	620.1	621.1
16.5°	619.3	619.6	617.5	617.0	617.2	618.0
17°	616.3	616.5	614.5	614.1	614.1	614.9
17.5°	613.2	613.4	611.3	610.9	610.8	611.6
18°	610.1	610.1	608.1	607.7	607.6	608.4
18.5°	606.7	606.8	604.7	604.5	604.1	604.9
19°	603.4	603.5	601.3	600.9	600.6	601.5
19.5°	600.0	600.0	597.7	597.5	597.1	597.9
20°	596.4	596.5	594.1	593.9	593.4	594.2
20.5°	592.7	592.8	590.5	590.1	589.6	590.6
21°	589.0	589.1	586.7	586.4	585.8	586.9

TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	577.4	577.6	574.8	574.3	573.9	574.9
23°	573.3	573.5	570.8	570.2	569.8	570.9
23.5°	569.4	569.4	566.7	565.8	565.7	566.8
24°	565.2	565.3	562.5	561.5	561.4	562.5
24.5°	561.0	561.1	558.1	557.0	557.0	558.7
25°	556.6	557.0	553.8	552.5	552.5	554.8
25.5°	552.3	553.3	549.3	547.7	548.3	548.4
26°	548.1	548.3	544.9	543.4	543.7	541.3
26.5°	544.2	540.7	540.5	538.4	539.7	534.7
27°	539.8	534.8	536.5	533.8	535.5	524.8
27.5°	532.9	526.5	531.9	528.8	528.8	514.4
28°	526.0	516.5	524.8	523.9	521.8	504.0
28.5°	519.4	506.4	518.0	518.8	514.9	494.0
29°	510.2	496.5	511.4	513.9	505.4	484.3
29.5°	500.3	486.5	502.0	508.6	495.4	474.9
30°	490.4	477.0	492.4	503.7	485.0	465.5
30.5°	480.7	467.2	482.2	498.6	475.3	456.4
31°	471.2	457.9	472.7	493.5	465.6	447.2
31.5°	461.5	448.4	462.9	488.2	456.1	437.8
32°	452.1	438.8	453.6	483.0	447.1	427.6
32.5°	442.7	428.7	444.4	477.9	438.3	417.7
33°	433.4	418.6	435.1	473.0	429.3	406.9
33.5°	423.9	408.1	425.9	468.6	420.5	395.6
34°	414.0	397.2	416.7	463.8	411.3	383.7
34.5°	404.1	386.2	407.0	455.9	401.8	372.7
35°	394.0	375.0	397.1	446.5	391.5	361.2
35.5°	383.4	363.8	387.1	439.5	381.5	350.5
36°	372.8	353.1	376.5	429.4	370.6	339.8
36.5°	361.9	342.4	366.2	416.8	360.1	329.8
37°	351.2	332.2	355.5	404.2	349.0	319.7
37.5°	340.7	322.0	345.0	391.7	338.6	309.9
38°	330.4	312.0	334.5	379.4	328.4	300.0
38.5°	320.5	302.1	324.7	367.5	318.6	290.1
39°	310.4	292.4	314.7	356.0	309.0	279.9
39.5°	300.7	282.1	305.4	344.9	299.6	269.6
40°	291.2	271.9	295.8	334.3	290.4	259.1
40.5°	281.9	262.0	286.3	324.0	281.3	248.9
41°	272.1	251.9	276.9	314.0	272.0	238.8
41.5°	262.5	241.9	267.6	304.0	262.4	229.2
42°	252.8	232.2	258.0	294.2	252.9	219.6
42.5°	243.4	222.8	248.4	284.7	243.5	210.7
43°	233.8	213.6	239.1	274.9	234.0	201.8
43.5°	224.3	204.6	229.6	264.9	224.8	193.2



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	197.9	179.0	202.8	234.9	198.5	168.1
45.5°	189.8	170.9	194.6	225.4	190.4	160.4
46°	181.4	162.9	186.4	216.2	182.3	152.9
46.5°	173.4	155.1	178.2	207.2	174.4	145.8
47°	165.6	147.8	170.4	198.6	166.8	138.8
47.5°	158.0	140.5	162.4	190.5	159.3	132.6
48°	150.4	134.1	154.8	182.9	151.9	126.9
48.5°	143.4	127.7	147.7	175.5	144.9	121.7
49°	136.4	122.1	140.7	168.1	138.2	116.9
49.5°	130.0	116.9	134.1	161.2	131.9	112.3
50°	123.6	112.0	127.8	154.4	126.0	108.1
50.5°	117.9	107.5	122.1	147.8	120.5	104.4
51°	112.6	103.5	116.5	141.4	115.5	100.9
51.5°	107.7	99.8	111.7	135.1	110.8	97.5
52°	103.2	96.4	107.4	129.1	106.5	94.3
52.5°	99.2	93.1	103.1	123.4	102.6	91.1
53°	95.4	89.9	99.3	117.9	98.8	88.1
53.5°	92.2	86.8	95.6	112.7	95.3	84.9
54°	89.1	83.7	92.1	107.8	92.0	81.9
54.5°	86.0	80.8	89.1	103.1	88.8	79.0
55°	82.8	77.9	85.9	98.7	85.9	76.3
55.5°	79.8	75.2	82.8	94.6	82.8	74.0
56°	77.0	72.8	80.0	90.7	80.0	72.3
56.5°	74.1	70.9	77.1	87.1	77.1	71.0
57°	71.5	69.4	74.3	83.6	74.4	69.8
57.5°	69.3	68.2	71.8	80.4	72.0	68.6
58°	67.4	67.0	69.6	77.4	69.9	67.4
58.5°	66.0	65.8	67.9	74.6	68.3	66.2
59°	64.8	64.6	66.6	72.1	67.2	64.9
59.5°	63.7	63.5	65.4	69.5	65.9	63.7
60°	62.5	62.3	64.2	67.4	64.7	62.4
60.5°	61.3	61.2	63.0	65.4	63.3	61.0
61°	60.0	60.0	61.7	63.4	62.2	59.8
61.5°	58.9	58.9	60.6	61.6	60.9	58.5
62°	57.7	57.7	59.4	59.9	59.6	57.3
62.5°	56.5	56.5	58.1	58.3	58.2	55.9
63°	55.3	55.4	56.9	56.8	56.9	54.7
63.5°	54.2	54.3	55.8	55.4	55.7	53.4
64°	53.0	53.2	54.6	54.1	54.4	52.1
64.5°	51.8	52.0	53.3	52.9	53.1	50.9
65°	50.8	50.9	52.2	51.7	51.8	49.7
65.5°	49.6	49.8	51.1	50.4	50.5	48.4
66°	48.4	48.6	49.8	49.3	49.3	47.1



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	45.0	45.3	46.4	45.7	45.4	43.4
68°	43.8	44.2	45.2	44.5	44.1	42.2
68.5°	42.8	43.1	44.0	43.2	42.9	40.9
69°	41.6	42.0	42.9	42.0	41.7	39.8
69.5°	40.4	40.9	41.7	40.7	40.4	38.3
70°	39.3	39.9	40.5	39.6	39.1	37.1
70.5°	38.2	38.6	39.5	38.5	38.0	36.0
71°	37.1	37.5	38.7	37.3	36.7	34.9
71.5°	35.9	36.6	37.5	36.0	35.5	33.8
72°	34.9	35.5	36.3	34.9	34.3	32.5
72.5°	33.7	34.4	35.1	33.7	33.1	31.3
73°	32.6	33.5	33.9	32.5	31.8	30.1
73.5°	31.6	32.3	32.7	31.2	30.6	28.9
74°	30.4	31.2	31.7	30.1	29.3	27.6
74.5°	29.3	30.2	30.5	28.9	28.0	26.4
75°	28.1	29.1	29.3	27.7	26.9	25.3
75.5°	27.1	28.0	28.3	26.5	25.6	24.1
76°	25.9	27.0	27.1	25.3	24.4	22.8
76.5°	24.8	25.8	26.0	24.1	23.1	21.6
77°	23.8	24.7	24.8	23.0	21.9	20.5
77.5°	22.6	23.7	23.8	21.9	20.7	19.3
78°	21.5	22.6	22.6	20.7	19.4	18.1
78.5°	20.4	21.5	21.5	19.5	18.2	17.0
79°	19.3	20.5	20.4	18.4	17.0	15.8
79.5°	18.2	19.4	19.3	17.3	15.8	14.6
80°	17.1	18.3	18.1	16.2	14.5	13.4
80.5°	16.0	17.3	17.1	15.1	13.3	12.4
81°	14.9	16.3	16.0	14.1	12.2	11.2
81.5°	14.0	15.2	14.9	13.0	11.1	10.0
82°	12.9	14.2	13.9	11.9	9.9	8.8
82.5°	11.8	13.2	12.8	11.0	9.0	7.8
83°	10.9	12.2	11.7	10.0	7.9	6.6
83.5°	9.8	11.1	10.7	9.1	6.9	5.4
84°	8.8	10.1	9.6	8.1	6.0	4.4
84.5°	7.8	9.2	8.6	7.3	5.1	3.8
85°	6.8	8.1	7.6	6.3	4.4	3.3
85.5°	5.8	7.1	6.5	5.4	3.7	2.7
86°	4.8	6.1	5.4	4.5	3.1	2.1
86.5°	3.7	5.1	4.5	3.6	2.5	1.6
87°	2.8	4.1	3.5	2.8	1.8	1.2
87.5°	1.8	3.2	2.7	2.0	1.2	0.6
88°	1.0	2.2	1.8	1.2	0.5	0.2
88.5°	0.3	1.3	1.0	0.3	0.2	0.0



TEST NUMBER: P775714

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMW-1000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.1	0.1	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°	582.9	587.2	598.0	607.1	606.6	610.1	612.2	611.3	609.0	605.4	596.6
22°	578.9	583.4	594.3	603.7	603.4	606.8	608.9	608.1	605.8	602.2	592.8



44°	184.8	211.8	274.7	262.5	220.7	255.6	306.2	260.7	229.2	258.4	276.8
44.5°	176.4	203.2	263.8	253.0	211.2	246.1	295.1	251.3	219.6	249.4	265.9



66.5°	46.0	47.1	47.9	48.8	45.6	47.3	47.6	47.3	45.8	48.2	47.7
67°	44.7	45.8	46.7	47.7	44.6	46.2	46.4	46.2	44.7	46.9	46.5



89°	0.0	0.1	0.1	0.5	0.1	0.2	0.4	0.5	0.5	0.7	0.4
89.5°	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.3	0.1



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

Scaled Data Report





21.5°	585.3	585.4	582.8	582.4	581.9	582.9
22°	581.4	581.4	578.9	578.4	577.9	578.9



44°	215.4	195.9	220.5	254.7	215.6	184.8
44.5°	206.7	187.3	211.8	244.8	207.1	176.4



66.5°	47.2	47.6	48.7	48.1	48.0	46.0
67°	46.2	46.5	47.6	46.9	46.7	44.7

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

Scaled Data Report



89°	0.1	0.4	0.2	0.1	0.1	0.0
89.5°	0.0	0.1	0.1	0.1	0.1	0.0

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

Scaled Data Report



(END OF REPORT)