

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: P775838

Luminaire Tested: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775838  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B044)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL510CSD-HCD81TRMW-1000lm-4000K  
Description: 8 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

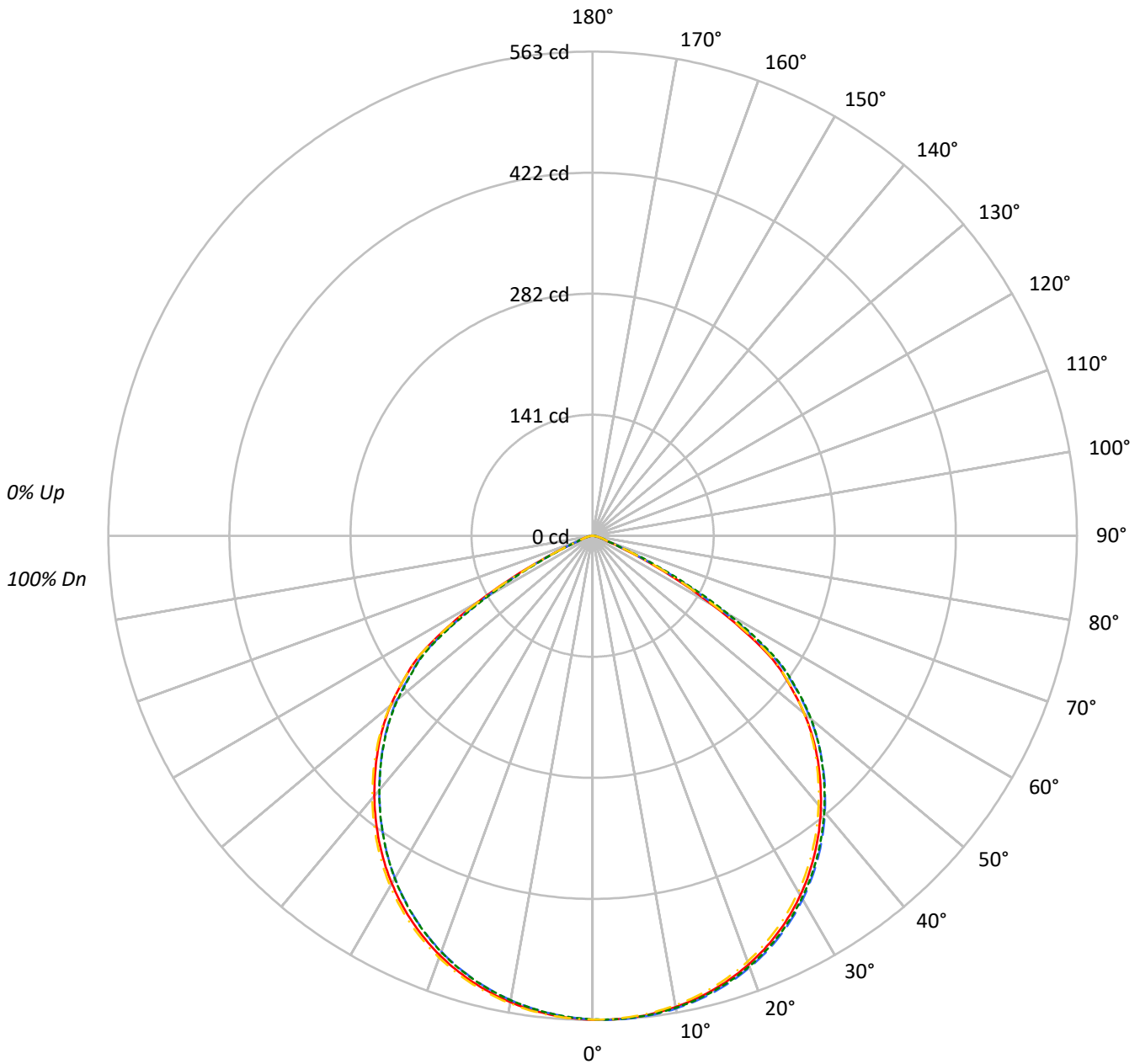
Lumens per Lamp: N/A  
Luminaire Lumens: 1296.4 lumens  
Efficiency: N/A  
Efficacy: 129.6 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.35  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 10  
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



TEST NUMBER: P775838  
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	109	105	102	99	101	98	96	97	95	93	94	92	91	89																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77																			
3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67																			
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51																			
6	75	62	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45																			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40																			
8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38	36																			
9	60	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	32																			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29																			

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

	0°	90°	180°	270°
0°	17176	17176	17176	17176
5°	17220	17227	17135	17089
10°	17249	17277	17072	17001
15°	17258	17305	16986	16885
20°	17233	17307	16869	16729
25°	17157	17264	16695	16510
30°	17017	17154	16460	16213
35°	16790	16969	16142	15829
40°	16452	16695	15731	15372
45°	15993	16316	15246	14840
50°	15246	15745	14543	14016
55°	13919	14595	13264	12706
60°	9843	11082	9379	8579
65°	4833	5779	4363	3937
70°	1535	1696	1544	1517
75°	1121	1250	1132	1156
80°	774	932	774	826
85°	455	631	455	525

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 16355 cd/sqm



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.3	4.1
10°-20°	152.8	11.8
20°-30°	231.2	17.8
30°-40°	275.6	21.3
40°-50°	278.1	21.5
50°-60°	220.9	17.0
60°-70°	71.6	5.5
70°-80°	11.0	0.8
80°-90°	1.9	0.1
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°	437.2	33.7
0°-40°	712.8	55.0
0°-60°	1211.9	93.5
0°-90°	1296.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1296.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	563	563	563	563	563	
5°	562	562	559	558	562	53
15°	546	548	537	534	546	154
25°	509	512	496	490	509	235
35°	450	455	433	425	450	282
45°	370	378	353	344	370	285
55°	262	274	249	239	262	226
65°	67	80	60	54	67	72
75°	10	11	10	10	10	10
85°	1	2	1	2	1	2
90°	0	0	0	0	0	



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6	562.6
0.5°	562.9	562.8	562.8	562.9	562.4	562.5	562.7	562.7	562.6	562.4	562.3
1°	562.9	562.9	563.0	563.1	562.6	562.6	562.6	562.6	562.4	562.0	561.9
1.5°	563.0	563.0	563.1	563.2	562.7	562.6	562.6	562.5	562.0	561.7	561.5
2°	562.9	563.0	563.2	563.3	562.8	562.6	562.5	562.3	561.8	561.3	561.1
2.5°	562.8	563.0	563.2	563.3	562.8	562.6	562.3	561.9	561.4	561.0	560.7
3°	562.8	563.0	563.2	563.3	562.7	562.5	562.1	561.6	561.1	560.5	560.3
3.5°	562.6	562.9	563.1	563.3	562.7	562.3	561.8	561.3	560.7	559.9	559.6
4°	562.5	562.8	563.0	563.1	562.6	562.1	561.5	560.9	560.2	559.4	559.1
4.5°	562.1	562.6	562.9	563.0	562.4	561.8	561.2	560.5	559.6	558.8	558.4
5°	561.9	562.4	562.8	562.8	562.1	561.6	560.8	559.9	559.1	558.2	557.7
5.5°	561.6	562.0	562.5	562.6	561.8	561.3	560.4	559.4	558.4	557.4	557.0
6°	561.2	561.7	562.1	562.3	561.5	560.9	559.8	558.9	557.7	556.7	556.3
6.5°	560.8	561.4	561.8	561.9	561.2	560.5	559.3	558.3	557.0	555.8	555.4
7°	560.3	561.0	561.5	561.5	560.8	559.9	558.8	557.6	556.3	555.0	554.5
7.5°	559.7	560.5	561.1	561.1	560.4	559.4	558.3	556.8	555.4	554.2	553.6
8°	559.2	559.9	560.6	560.7	559.8	558.9	557.5	556.1	554.6	553.2	552.6
8.5°	558.5	559.4	560.0	560.0	559.3	558.2	556.8	555.2	553.6	552.3	551.6
9°	557.8	558.9	559.5	559.5	558.7	557.5	556.0	554.4	552.7	551.2	550.6
9.5°	557.1	558.2	558.9	558.9	558.1	556.9	555.2	553.4	551.7	550.2	549.4
10°	556.4	557.5	558.2	558.2	557.3	556.1	554.4	552.5	550.7	549.0	548.3
10.5°	555.5	556.8	557.4	557.4	556.6	555.2	553.5	551.4	549.5	547.9	547.0
11°	554.7	556.0	556.7	556.7	555.7	554.4	552.5	550.4	548.4	546.6	545.8
11.5°	553.7	555.1	555.8	555.8	554.9	553.4	551.4	549.3	547.2	545.3	544.5
12°	552.8	554.3	555.0	555.0	554.0	552.5	550.4	548.1	546.0	544.1	543.1
12.5°	551.9	553.3	554.1	554.1	553.1	551.4	549.3	546.9	544.6	542.6	541.7
13°	550.7	552.3	553.1	553.0	552.1	550.4	548.2	545.7	543.2	541.2	540.3
13.5°	549.5	551.1	552.1	552.0	551.0	549.2	547.0	544.3	541.9	539.8	538.7
14°	548.4	550.1	551.0	550.9	549.9	548.1	545.8	543.0	540.4	538.3	537.1
14.5°	547.2	548.9	550.0	549.8	548.8	546.8	544.4	541.6	538.9	536.7	535.6
15°	546.0	547.9	548.8	548.6	547.5	545.7	543.0	540.1	537.4	535.0	534.0
15.5°	544.6	546.5	547.5	547.3	546.3	544.3	541.7	538.7	535.8	533.5	532.2
16°	543.2	545.2	546.3	546.0	544.9	542.9	540.2	537.0	534.1	531.7	530.4
16.5°	541.9	543.9	544.9	544.6	543.7	541.6	538.7	535.5	532.4	530.0	528.6
17°	540.3	542.5	543.6	543.2	542.3	540.1	537.1	533.8	530.7	528.2	526.8
17.5°	538.8	541.0	542.2	541.8	540.8	538.6	535.5	532.1	528.9	526.2	524.9
18°	537.3	539.5	540.6	540.3	539.4	537.0	533.9	530.3	527.1	524.3	522.9
18.5°	535.7	538.0	539.1	538.6	537.8	535.4	532.2	528.5	525.2	522.3	520.9
19°	533.9	536.4	537.5	537.1	536.1	533.7	530.4	526.6	523.2	520.2	518.8
19.5°	532.2	534.7	535.9	535.5	534.4	532.0	528.6	524.8	521.2	518.2	516.7
20°	530.4	532.9	534.2	533.8	532.7	530.2	526.8	522.9	519.2	516.1	514.5
20.5°	528.6	531.2	532.4	532.0	531.0	528.4	524.9	520.8	517.0	513.9	512.3
21°	526.6	529.4	530.5	530.2	529.1	526.5	522.8	518.7	514.9	511.6	509.9



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	520.7	523.5	524.9	524.3	523.3	520.6	516.6	512.3	508.1	504.6	502.8
23°	518.5	521.5	522.8	522.3	521.3	518.5	514.5	509.8	505.6	502.3	500.3
23.5°	516.4	519.4	520.8	520.2	519.1	516.4	512.2	507.6	503.2	499.7	497.8
24°	514.0	517.2	518.6	518.1	517.0	514.1	509.8	505.2	500.8	497.2	495.1
24.5°	511.7	515.0	516.4	515.8	514.8	511.8	507.5	502.8	498.2	494.5	492.4
25°	509.3	512.7	514.0	513.5	512.5	509.4	505.2	500.3	495.6	491.9	489.7
25.5°	507.0	510.4	511.7	511.2	510.2	507.1	502.8	497.7	493.0	489.3	486.9
26°	504.6	507.9	509.3	508.9	507.7	504.7	500.3	495.1	490.3	486.4	484.2
26.5°	502.1	505.5	507.0	506.5	505.2	502.3	497.7	492.5	487.6	483.6	481.3
27°	499.4	503.0	504.4	504.0	502.7	499.8	495.1	489.8	484.7	480.7	478.3
27.5°	496.8	500.4	502.0	501.3	500.3	497.1	492.4	487.0	481.9	477.8	475.4
28°	494.1	497.8	499.3	498.7	497.7	494.5	489.7	484.1	479.0	474.9	472.4
28.5°	491.4	495.0	496.6	496.1	494.9	491.8	486.9	481.3	476.0	471.7	469.3
29°	488.6	492.4	493.9	493.3	492.2	488.9	484.0	478.3	473.1	468.8	466.1
29.5°	485.7	489.7	491.1	490.6	489.5	486.2	481.2	475.4	469.9	465.5	463.0
30°	482.7	486.7	488.2	487.8	486.6	483.3	478.2	472.3	466.9	462.4	459.7
30.5°	479.9	483.8	485.4	484.8	483.8	480.4	475.3	469.3	463.6	459.1	456.4
31°	476.8	480.9	482.4	481.9	480.7	477.4	472.1	466.1	460.5	455.9	453.1
31.5°	473.7	477.8	479.4	478.9	477.8	474.3	469.1	462.9	457.2	452.5	449.8
32°	470.6	474.7	476.3	475.8	474.8	471.3	465.9	459.7	453.9	449.1	446.4
32.5°	467.3	471.5	473.3	472.7	471.6	468.1	462.7	456.4	450.5	445.7	442.7
33°	464.1	468.4	470.1	469.5	468.6	465.0	459.4	453.1	447.0	442.2	439.4
33.5°	460.8	465.1	466.9	466.4	465.3	461.7	456.1	449.7	443.7	438.5	435.7
34°	457.3	461.7	463.6	463.0	461.9	458.5	452.8	446.2	440.1	435.0	432.1
34.5°	454.0	458.4	460.3	459.6	458.6	455.0	449.3	442.7	436.5	431.4	428.3
35°	450.5	454.9	456.9	456.3	455.3	451.7	445.9	439.3	433.1	427.7	424.8
35.5°	446.9	451.4	453.4	452.8	451.9	448.2	442.3	435.6	429.4	423.9	421.0
36°	443.4	448.0	449.9	449.4	448.5	444.7	438.8	431.9	425.6	420.2	417.2
36.5°	439.7	444.3	446.3	445.9	444.8	441.1	435.3	428.3	421.9	416.5	413.4
37°	436.0	440.6	442.7	442.3	441.4	437.6	431.6	424.8	418.0	412.6	409.6
37.5°	432.3	436.9	439.2	438.6	437.7	433.8	427.9	420.9	414.3	408.8	405.6
38°	428.4	433.2	435.4	435.0	434.0	430.2	424.1	417.1	410.5	404.8	401.8
38.5°	424.7	429.4	431.6	431.3	430.2	426.4	420.4	413.3	406.6	400.9	397.8
39°	420.8	425.5	427.8	427.4	426.5	422.7	416.6	409.4	402.7	396.9	393.9
39.5°	416.8	421.6	423.9	423.6	422.8	418.8	412.6	405.5	398.7	392.9	389.9
40°	412.8	417.6	420.1	419.7	418.9	415.0	408.7	401.4	394.7	388.9	385.8
40.5°	408.8	413.6	416.0	415.8	415.0	411.0	404.7	397.5	390.7	384.7	381.8
41°	404.6	409.5	412.1	411.8	410.9	407.0	400.7	393.5	386.6	380.8	377.6
41.5°	400.4	405.4	408.0	407.9	407.0	403.0	396.7	389.5	382.6	376.7	373.5
42°	396.3	401.3	404.0	403.9	403.0	398.9	392.6	385.5	378.4	372.5	369.3
42.5°	392.1	397.1	399.9	399.8	398.9	394.8	388.5	381.3	374.2	368.4	365.2
43°	387.9	392.8	395.7	395.7	394.9	390.7	384.4	377.2	370.1	364.1	361.0
43.5°	383.6	388.6	391.5	391.6	390.7	386.5	380.2	373.0	365.9	359.9	356.8



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	370.4	375.4	378.5	378.8	377.9	373.7	367.5	360.4	353.1	346.9	344.0
45.5°	365.7	370.9	374.0	374.4	373.6	369.3	363.1	355.9	348.8	342.6	339.7
46°	361.2	366.5	369.6	370.0	369.2	364.9	358.8	351.6	344.4	338.2	335.3
46.5°	356.6	361.6	365.1	365.5	364.8	360.5	354.3	347.1	339.9	333.8	330.9
47°	351.8	357.0	360.5	361.0	360.4	355.9	349.7	342.5	335.4	329.3	326.2
47.5°	346.9	352.2	355.8	356.4	355.9	351.2	345.0	337.9	330.9	324.6	321.6
48°	342.1	347.2	351.0	351.7	351.0	346.6	340.7	333.4	326.2	319.9	317.0
48.5°	337.0	342.2	346.0	346.8	346.4	342.0	335.7	328.7	321.4	315.2	312.2
49°	331.9	337.3	341.0	342.1	341.6	337.0	330.9	323.7	316.4	310.2	307.1
49.5°	326.6	332.0	335.9	337.0	336.6	332.0	325.8	318.7	311.4	305.1	302.0
50°	321.0	326.6	330.7	331.8	331.5	327.0	320.9	313.6	306.2	299.9	296.6
50.5°	315.3	320.8	325.2	326.2	326.1	321.8	315.5	308.2	300.8	294.3	291.2
51°	309.7	315.2	319.5	320.9	320.8	316.2	309.9	302.6	295.1	288.7	285.6
51.5°	303.7	309.2	313.6	315.1	315.3	310.6	304.3	296.9	289.7	283.4	280.0
52°	297.7	303.4	307.9	309.3	309.4	304.8	298.5	291.1	283.7	277.5	274.1
52.5°	291.7	297.2	301.9	303.2	303.6	298.8	292.5	285.2	278.0	271.7	268.5
53°	285.7	291.2	295.8	297.5	297.6	292.9	286.5	279.3	272.3	266.1	262.9
53.5°	279.8	285.1	289.8	291.4	291.7	287.2	280.7	273.7	266.8	260.8	257.8
54°	274.1	279.5	284.0	285.8	285.9	281.3	275.1	268.2	261.5	255.4	252.3
54.5°	268.3	273.7	278.2	280.0	280.1	275.8	269.5	262.4	255.8	249.7	246.6
55°	261.5	266.9	271.7	273.6	274.2	269.6	263.3	256.1	249.2	243.3	240.2
55.5°	254.1	259.4	264.6	266.5	267.4	262.9	256.3	248.9	241.5	235.3	232.5
56°	245.4	251.5	256.2	258.2	259.8	255.3	248.3	240.3	232.8	226.8	223.8
56.5°	236.1	242.4	247.3	249.5	251.2	246.9	239.8	231.4	223.8	217.4	214.5
57°	226.2	232.4	237.8	240.1	242.2	237.5	230.3	222.0	214.2	207.8	204.6
57.5°	215.8	221.7	227.9	230.7	232.8	227.7	220.6	212.4	204.4	198.1	194.5
58°	205.0	211.0	217.7	221.0	223.1	217.4	210.1	202.1	194.4	187.9	184.3
58.5°	194.4	200.2	207.1	211.0	213.2	207.2	199.8	192.0	184.4	178.1	174.1
59°	183.2	189.5	196.6	200.8	202.7	196.1	188.9	181.3	174.0	167.8	163.6
59.5°	172.4	178.5	185.8	190.1	192.1	185.4	177.9	170.6	163.7	157.7	153.5
60°	161.2	167.8	175.0	179.6	181.5	174.6	167.0	159.7	153.6	147.7	143.6
60.5°	150.7	157.2	164.1	168.7	170.9	164.2	156.1	149.3	143.4	137.6	133.6
61°	140.1	146.8	153.1	157.8	159.9	153.6	145.5	138.4	133.1	127.9	123.9
61.5°	129.8	136.8	142.6	146.6	149.4	143.6	135.1	128.1	123.1	118.5	114.4
62°	119.8	126.5	132.3	135.8	139.0	133.1	125.0	118.0	113.3	109.2	105.4
62.5°	110.2	116.7	122.2	124.9	128.2	123.0	114.9	108.0	104.3	100.6	96.9
63°	100.8	107.0	112.2	114.5	118.1	113.1	106.1	99.0	95.3	92.0	88.4
63.5°	91.7	97.7	102.1	103.9	108.2	104.1	97.2	90.0	86.2	83.3	79.9
64°	82.9	88.4	92.6	94.0	98.8	95.0	88.2	81.0	77.2	74.7	71.5
64.5°	74.6	79.8	83.4	84.4	89.5	85.9	79.3	72.1	68.3	66.0	64.0
65°	66.9	71.4	74.5	75.4	80.0	76.8	70.5	64.2	60.4	58.4	57.0
65.5°	59.1	63.3	66.1	67.0	70.7	67.7	62.5	56.9	53.3	51.3	50.6
66°	51.3	55.6	57.9	58.8	62.1	59.4	55.2	50.3	46.4	44.7	44.6





TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	33.6	35.8	37.3	38.1	40.0	38.9	36.4	33.5	29.3	29.4	30.0
68°	29.7	31.7	33.4	34.1	34.1	33.1	31.2	29.2	25.3	25.8	26.4
68.5°	25.8	27.7	29.6	30.1	29.1	28.0	26.9	25.4	22.2	23.1	23.3
69°	22.1	23.7	25.8	26.3	24.9	23.9	23.4	22.3	19.9	20.8	20.8
69.5°	18.2	19.7	22.1	22.3	21.5	20.9	20.5	19.7	18.3	18.9	18.8
70°	17.2	17.9	18.3	18.3	19.0	18.7	18.4	18.0	17.3	17.4	17.5
70.5°	16.4	16.7	17.0	17.0	17.4	17.3	17.2	16.9	16.5	16.6	16.6
71°	15.4	15.9	16.2	16.2	16.5	16.5	16.4	16.1	15.7	15.8	15.9
71.5°	14.6	15.1	15.4	15.4	15.8	15.7	15.5	15.2	14.7	14.9	15.0
72°	13.8	14.3	14.6	14.6	14.9	14.9	14.8	14.5	14.0	14.2	14.3
72.5°	13.0	13.4	13.9	13.9	14.2	14.1	14.0	13.7	13.1	13.3	13.5
73°	12.2	12.7	13.0	13.1	13.4	13.3	13.2	12.9	12.4	12.6	12.8
73.5°	11.4	12.0	12.3	12.4	12.7	12.6	12.5	12.2	11.7	11.9	12.1
74°	10.8	11.2	11.7	11.7	12.0	11.9	11.9	11.4	10.9	11.1	11.3
74.5°	10.1	10.5	10.9	10.9	11.2	11.2	11.1	10.7	10.2	10.5	10.7
75°	9.5	9.9	10.3	10.3	10.6	10.5	10.5	10.1	9.6	9.8	10.1
75.5°	8.8	9.2	9.7	9.7	10.0	9.9	9.9	9.5	9.0	9.1	9.5
76°	8.2	8.6	9.0	9.0	9.3	9.3	9.2	8.8	8.4	8.6	8.9
76.5°	7.7	8.0	8.4	8.5	8.8	8.7	8.7	8.3	7.9	8.1	8.3
77°	7.1	7.5	7.9	8.0	8.2	8.2	8.1	7.8	7.2	7.5	7.8
77.5°	6.6	6.9	7.4	7.5	7.7	7.7	7.6	7.1	6.7	6.9	7.2
78°	6.1	6.4	6.8	6.9	7.1	7.1	7.0	6.6	6.2	6.4	6.6
78.5°	5.7	6.0	6.3	6.4	6.6	6.6	6.5	6.1	5.7	5.9	6.2
79°	5.3	5.5	5.9	6.0	6.1	6.1	6.0	5.6	5.3	5.4	5.7
79.5°	4.7	5.0	5.5	5.5	5.7	5.7	5.6	5.1	4.8	4.9	5.3
80°	4.4	4.6	4.9	5.0	5.3	5.3	5.1	4.7	4.4	4.5	4.8
80.5°	4.0	4.2	4.5	4.6	4.8	4.8	4.7	4.3	4.0	4.1	4.4
81°	3.6	3.8	4.2	4.3	4.4	4.4	4.3	3.9	3.6	3.7	4.0
81.5°	3.3	3.5	3.8	3.9	4.0	4.0	3.9	3.6	3.3	3.4	3.6
82°	2.9	3.2	3.5	3.5	3.7	3.7	3.6	3.2	2.9	2.9	3.3
82.5°	2.5	2.7	3.0	3.2	3.3	3.3	3.2	2.8	2.5	2.6	2.9
83°	2.2	2.4	2.7	2.8	2.9	2.9	2.8	2.5	2.2	2.3	2.6
83.5°	2.0	2.1	2.4	2.5	2.6	2.6	2.5	2.2	2.0	2.0	2.3
84°	1.7	1.8	2.1	2.2	2.3	2.3	2.2	1.9	1.7	1.8	2.0
84.5°	1.5	1.6	1.8	1.9	2.0	2.0	1.9	1.6	1.5	1.5	1.7
85°	1.3	1.4	1.6	1.7	1.8	1.8	1.7	1.4	1.3	1.3	1.5
85.5°	0.9	1.1	1.4	1.5	1.5	1.5	1.4	1.1	1.1	0.9	1.3
86°	0.8	0.8	1.2	1.2	1.3	1.3	1.2	0.8	0.8	0.7	1.1
86.5°	0.6	0.6	0.9	0.9	1.1	1.1	0.9	0.7	0.6	0.6	0.8
87°	0.4	0.5	0.7	0.8	0.8	0.8	0.7	0.5	0.4	0.4	0.6
87.5°	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.4	0.3	0.3	0.5
88°	0.2	0.3	0.4	0.4	0.5	0.5	0.4	0.3	0.2	0.2	0.3
88.5°	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2



TEST NUMBER: P775838  
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-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: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	562.6	562.6	562.6	562.6	562.6	562.6
0.5°	562.4	561.9	562.1	562.5	562.8	562.9
1°	562.0	561.6	561.9	562.4	562.8	562.9
1.5°	561.7	561.3	561.6	562.3	562.8	563.0
2°	561.3	561.0	561.3	562.0	562.7	562.9
2.5°	560.9	560.6	561.0	561.7	562.5	562.8
3°	560.4	560.0	560.6	561.4	562.3	562.8
3.5°	559.8	559.5	560.2	561.1	562.0	562.6
4°	559.2	559.0	559.6	560.7	561.7	562.5
4.5°	558.6	558.4	559.1	560.3	561.4	562.1
5°	557.9	557.6	558.6	559.7	561.0	561.9
5.5°	557.1	557.0	557.9	559.2	560.6	561.6
6°	556.4	556.3	557.2	558.7	560.0	561.2
6.5°	555.6	555.4	556.5	557.9	559.5	560.8
7°	554.7	554.6	555.8	557.3	559.0	560.3
7.5°	553.8	553.6	555.0	556.6	558.4	559.7
8°	552.8	552.7	554.1	555.7	557.7	559.2
8.5°	551.9	551.6	553.1	555.0	556.9	558.5
9°	550.8	550.6	552.1	554.1	556.2	557.8
9.5°	549.6	549.5	551.1	553.1	555.3	557.1
10°	548.5	548.4	550.1	552.2	554.5	556.4
10.5°	547.2	547.2	548.9	551.1	553.5	555.5
11°	546.1	546.0	547.8	550.1	552.6	554.7
11.5°	544.7	544.7	546.5	548.9	551.6	553.7
12°	543.3	543.3	545.2	547.8	550.5	552.8
12.5°	542.0	542.0	544.0	546.5	549.4	551.9
13°	540.5	540.5	542.6	545.2	548.3	550.7
13.5°	538.9	539.0	541.1	543.9	547.0	549.5
14°	537.4	537.4	539.7	542.5	545.8	548.4
14.5°	535.8	535.8	538.2	541.1	544.4	547.2
15°	534.2	534.2	536.6	539.7	543.0	546.0
15.5°	532.4	532.5	534.8	538.1	541.7	544.6
16°	530.6	530.7	533.2	536.5	540.2	543.2
16.5°	528.9	529.0	531.5	534.8	538.6	541.9
17°	527.1	527.2	529.7	533.2	537.0	540.3
17.5°	525.0	525.2	527.9	531.5	535.5	538.8
18°	523.1	523.3	525.9	529.7	533.7	537.3
18.5°	521.1	521.2	524.0	527.8	532.0	535.7
19°	519.0	519.2	522.0	525.9	530.2	533.9
19.5°	516.9	517.0	519.9	524.0	528.4	532.2
20°	514.7	514.9	517.8	522.0	526.4	530.4
20.5°	512.4	512.6	515.7	519.9	524.5	528.6
21°	510.1	510.3	513.4	517.8	522.5	526.6

TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	502.8	503.1	506.6	511.1	516.2	520.7
23°	500.4	500.6	504.1	508.8	514.0	518.5
23.5°	497.8	498.1	501.6	506.5	511.7	516.4
24°	495.1	495.5	499.1	504.0	509.4	514.0
24.5°	492.5	492.8	496.4	501.5	507.0	511.7
25°	489.8	490.1	493.8	498.9	504.6	509.3
25.5°	486.9	487.4	491.1	496.4	502.1	507.0
26°	484.2	484.5	488.4	493.7	499.5	504.6
26.5°	481.3	481.7	485.7	491.0	496.8	502.1
27°	478.3	478.7	482.7	488.2	494.2	499.4
27.5°	475.4	475.7	479.8	485.4	491.5	496.8
28°	472.3	472.7	476.9	482.5	488.7	494.1
28.5°	469.2	469.6	473.9	479.6	485.9	491.4
29°	466.0	466.5	470.7	476.6	483.0	488.6
29.5°	462.8	463.3	467.6	473.6	480.0	485.7
30°	459.4	459.9	464.5	470.5	477.1	482.7
30.5°	456.2	456.7	461.1	467.3	473.9	479.9
31°	452.9	453.3	458.0	464.1	470.8	476.8
31.5°	449.4	450.0	454.6	460.9	467.6	473.7
32°	446.0	446.4	451.1	457.6	464.5	470.6
32.5°	442.4	442.9	447.7	454.2	461.2	467.3
33°	438.9	439.5	444.3	450.8	458.0	464.1
33.5°	435.4	435.8	440.6	447.4	454.5	460.8
34°	431.7	432.1	437.1	443.9	451.0	457.3
34.5°	427.9	428.5	433.5	440.3	447.6	454.0
35°	424.2	424.7	429.8	436.7	444.0	450.5
35.5°	420.6	421.1	426.0	433.1	440.4	446.9
36°	416.8	417.2	422.3	429.4	436.7	443.4
36.5°	412.9	413.5	418.6	425.7	433.2	439.7
37°	409.1	409.6	414.7	421.9	429.4	436.0
37.5°	405.1	405.6	410.8	418.0	425.6	432.3
38°	401.2	401.7	406.8	414.2	421.7	428.4
38.5°	397.3	397.8	402.9	410.3	417.8	424.7
39°	393.3	393.8	398.9	406.4	413.9	420.8
39.5°	389.3	389.7	394.9	402.3	410.1	416.8
40°	385.3	385.7	390.8	398.3	406.1	412.8
40.5°	381.2	381.6	386.6	394.2	402.1	408.8
41°	377.2	377.5	382.6	390.1	397.9	404.6
41.5°	373.0	373.2	378.3	385.9	393.8	400.4
42°	368.9	369.2	374.2	381.9	389.7	396.3
42.5°	364.8	364.9	370.0	377.7	385.4	392.1
43°	360.5	360.8	365.9	373.4	381.2	387.9
43.5°	356.3	356.5	361.5	369.1	376.9	383.6



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	343.6	343.7	348.5	356.1	363.8	370.4
45.5°	339.3	339.3	344.1	351.7	359.2	365.7
46°	334.9	334.7	339.6	347.1	354.7	361.2
46.5°	330.4	330.1	335.1	342.5	350.1	356.6
47°	325.9	325.7	330.3	337.8	345.4	351.8
47.5°	321.2	320.9	325.4	333.0	340.5	346.9
48°	316.5	316.1	320.6	328.0	335.5	342.1
48.5°	311.6	311.0	315.6	323.0	330.4	337.0
49°	306.6	306.0	310.5	317.7	325.4	331.9
49.5°	301.5	300.7	305.1	312.6	320.0	326.6
50°	296.1	295.1	299.7	306.9	314.6	321.0
50.5°	290.6	289.8	294.1	301.3	308.8	315.3
51°	285.1	284.1	288.5	295.8	303.1	309.7
51.5°	279.4	278.4	282.6	290.1	297.4	303.7
52°	273.5	272.8	277.1	284.2	291.4	297.7
52.5°	267.8	267.1	271.4	278.3	285.1	291.7
53°	262.4	261.7	265.9	272.8	279.5	285.7
53.5°	257.0	256.6	260.8	267.4	273.9	279.8
54°	251.9	251.3	255.4	262.2	268.5	274.1
54.5°	246.1	245.5	249.7	256.2	262.5	268.3
55°	239.9	238.7	243.3	249.8	256.1	261.5
55.5°	232.5	230.8	235.3	241.8	248.2	254.1
56°	223.6	221.9	226.6	233.0	239.5	245.4
56.5°	214.3	212.5	217.0	223.7	230.0	236.1
57°	204.6	202.5	207.1	213.9	220.5	226.2
57.5°	194.5	192.1	197.2	203.9	210.3	215.8
58°	184.3	181.6	187.0	193.8	200.0	205.0
58.5°	173.7	171.3	176.7	183.6	188.7	194.4
59°	163.1	160.7	166.3	172.9	178.3	183.2
59.5°	152.7	150.7	156.1	162.6	167.6	172.4
60°	142.3	140.5	146.0	152.1	156.6	161.2
60.5°	132.2	130.6	135.9	141.6	145.6	150.7
61°	122.2	120.6	125.8	131.1	135.2	140.1
61.5°	112.8	111.4	116.2	121.1	125.0	129.8
62°	104.3	102.0	106.9	110.9	114.6	119.8
62.5°	95.9	93.2	97.7	101.1	104.9	110.2
63°	87.5	84.7	88.6	91.7	95.3	100.8
63.5°	79.1	76.5	80.1	82.7	86.2	91.7
64°	70.7	68.6	71.6	73.9	77.3	82.9
64.5°	63.7	61.4	63.8	65.9	69.3	74.6
65°	57.0	54.5	56.3	58.1	61.6	66.9
65.5°	50.8	48.3	49.3	50.9	54.3	59.1
66°	45.0	42.4	42.6	44.4	47.7	51.3



TEST NUMBER: P775838

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	30.7	30.3	30.0	31.4	32.5	33.6
68°	26.8	26.8	26.7	27.7	28.7	29.7
68.5°	23.5	23.3	23.3	24.1	25.0	25.8
69°	20.9	19.9	20.0	20.4	21.2	22.1
69.5°	18.8	18.1	18.2	18.5	18.9	18.2
70°	17.4	17.0	17.1	17.3	17.4	17.2
70.5°	16.6	16.3	16.4	16.5	16.5	16.4
71°	15.9	15.4	15.5	15.8	15.8	15.4
71.5°	15.0	14.7	14.8	14.9	14.9	14.6
72°	14.3	13.9	14.0	14.2	14.1	13.8
72.5°	13.4	13.1	13.2	13.4	13.3	13.0
73°	12.7	12.4	12.5	12.6	12.5	12.2
73.5°	12.1	11.8	11.8	12.0	11.8	11.4
74°	11.3	11.0	11.1	11.2	11.1	10.8
74.5°	10.7	10.4	10.5	10.6	10.4	10.1
75°	10.1	9.8	9.9	9.9	9.8	9.5
75.5°	9.5	9.1	9.2	9.3	9.1	8.8
76°	8.9	8.6	8.6	8.7	8.5	8.2
76.5°	8.3	8.0	8.1	8.1	7.9	7.7
77°	7.8	7.5	7.6	7.6	7.4	7.1
77.5°	7.2	6.9	7.0	7.0	6.8	6.6
78°	6.7	6.5	6.5	6.6	6.3	6.1
78.5°	6.2	6.0	6.1	6.1	5.9	5.7
79°	5.8	5.6	5.6	5.7	5.4	5.3
79.5°	5.4	5.1	5.1	5.1	4.9	4.7
80°	4.9	4.7	4.7	4.7	4.5	4.4
80.5°	4.5	4.3	4.3	4.3	4.1	4.0
81°	4.1	4.0	4.0	4.0	3.8	3.6
81.5°	3.7	3.6	3.7	3.6	3.4	3.3
82°	3.4	3.3	3.3	3.3	3.0	2.9
82.5°	3.0	2.9	2.9	2.9	2.6	2.5
83°	2.7	2.5	2.6	2.5	2.3	2.2
83.5°	2.4	2.3	2.3	2.2	2.0	2.0
84°	2.1	2.0	2.0	2.0	1.8	1.7
84.5°	1.8	1.7	1.8	1.7	1.5	1.5
85°	1.6	1.5	1.5	1.5	1.3	1.3
85.5°	1.4	1.3	1.3	1.3	0.9	0.9
86°	1.1	1.1	1.1	1.1	0.8	0.8
86.5°	0.9	0.8	0.8	0.8	0.6	0.6
87°	0.7	0.6	0.6	0.6	0.5	0.4
87.5°	0.5	0.4	0.4	0.4	0.4	0.3
88°	0.3	0.3	0.3	0.3	0.2	0.2
88.5°	0.2	0.1	0.1	0.1	0.1	0.1



TEST NUMBER: P775838  
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-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°	524.6	527.5	528.7	528.3	527.2	524.5	520.8	516.6	512.7	509.3	507.6
22°	522.7	525.6	526.8	526.4	525.3	522.5	518.7	514.5	510.5	507.1	505.2



44°	379.2	384.3	387.2	387.3	386.4	382.3	376.0	368.9	361.6	355.5	352.6
44.5°	374.8	379.8	382.7	383.1	382.3	377.9	371.7	364.6	357.4	351.3	348.3



66.5°	44.0	48.6	50.4	51.4	54.2	52.0	48.3	44.0	40.0	38.9	39.3
67°	37.5	41.9	43.5	44.3	47.0	45.2	42.0	38.5	34.1	33.7	34.3



89°	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	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°	507.7	508.1	511.2	515.7	520.4	524.6
22°	505.3	505.6	508.9	513.4	518.3	522.7



44°	352.1	352.3	357.3	364.9	372.6	379.2
44.5°	347.9	348.0	352.9	360.6	368.3	374.8

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

Scaled Data Report



66.5°	39.7	37.3	36.9	38.7	41.9	44.0
67°	35.1	33.8	33.4	35.0	36.2	37.5

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)