

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: P775835

Luminaire Tested: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775835  
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-2700K  
Description: 8 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

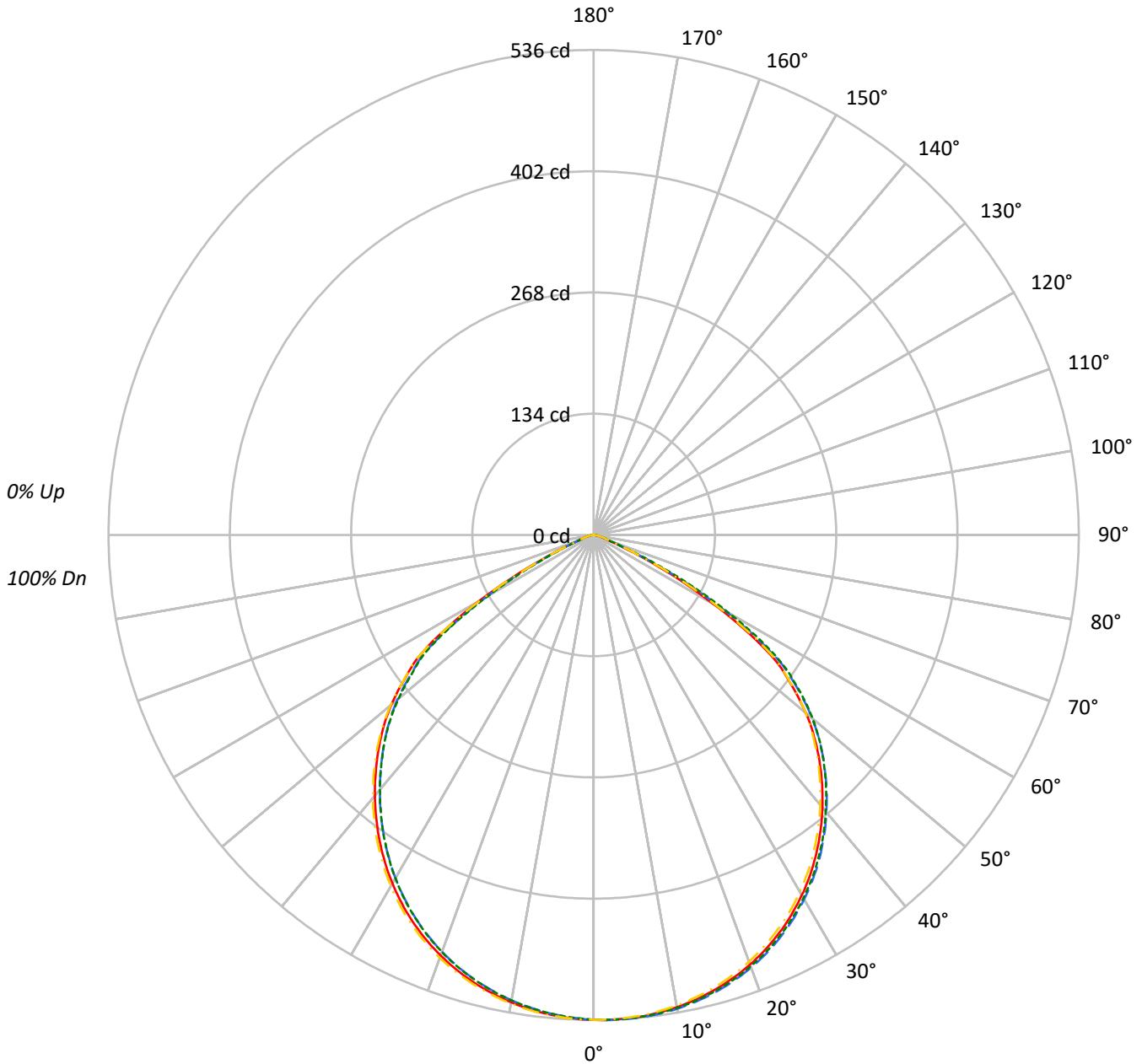
Lumens per Lamp: N/A  
Luminaire Lumens: 1235.0 lumens  
Efficiency: N/A  
Efficacy: 123.5 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.35  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

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: P775835  
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### Luminous Intensity Polar Plot





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

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

	0°	90°	180°	270°
0°	16361	16361	16361	16361
5°	16405	16411	16323	16280
10°	16431	16459	16263	16195
15°	16439	16486	16180	16085
20°	16417	16488	16069	15936
25°	16345	16446	15903	15728
30°	16213	16343	15681	15448
35°	15993	16168	15374	15076
40°	15671	15902	14985	14643
45°	15233	15543	14525	14136
50°	14524	14999	13855	13356
55°	13259	13908	12636	12104
60°	9379	10557	8933	8176
65°	4602	5505	4154	3749
70°	1464	1616	1473	1446
75°	1062	1191	1073	1097
80°	738	879	738	791
85°	420	596	420	490

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 15578 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.7	4.1
10°-20°	145.5	11.8
20°-30°	220.3	17.8
30°-40°	262.5	21.3
40°-50°	265.0	21.5
50°-60°	210.5	17.0
60°-70°	68.2	5.5
70°-80°	10.5	0.8
80°-90°	1.8	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°	416.5	33.7
0°-40°	679.1	55.0
0°-60°	1154.5	93.5
0°-90°	1235.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1235.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	536	536	536	536	536	
5°	535	536	533	531	535	51
15°	520	522	512	509	520	147
25°	485	488	472	467	485	224
35°	429	434	412	404	429	268
45°	353	360	336	327	353	271
55°	249	261	237	227	249	215
65°	64	76	58	52	64	69
75°	9	10	9	9	9	10
85°	1	2	1	1	1	2
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	535.9	535.9	535.9	535.9	535.9	535.9	535.9	535.9	535.9	535.9	535.9
0.5°	536.2	536.1	536.1	536.2	535.7	535.8	536.0	536.0	535.9	535.7	535.6
1°	536.2	536.2	536.3	536.4	535.9	535.9	535.9	535.9	535.7	535.4	535.3
1.5°	536.3	536.3	536.4	536.5	536.0	535.9	535.9	535.8	535.4	535.1	534.9
2°	536.2	536.3	536.5	536.6	536.1	535.9	535.8	535.6	535.2	534.7	534.5
2.5°	536.1	536.3	536.5	536.6	536.1	535.9	535.6	535.3	534.8	534.4	534.1
3°	536.1	536.3	536.5	536.6	536.0	535.8	535.5	535.0	534.5	533.9	533.7
3.5°	535.9	536.2	536.4	536.6	536.0	535.6	535.2	534.7	534.1	533.4	533.1
4°	535.8	536.1	536.3	536.4	535.9	535.5	534.9	534.3	533.6	532.9	532.6
4.5°	535.5	535.9	536.2	536.3	535.7	535.2	534.6	533.9	533.1	532.3	531.9
5°	535.3	535.7	536.1	536.1	535.5	535.0	534.2	533.4	532.6	531.7	531.3
5.5°	535.0	535.4	535.8	535.9	535.2	534.7	533.8	532.9	531.9	531.0	530.6
6°	534.6	535.1	535.5	535.6	534.9	534.3	533.3	532.4	531.3	530.3	529.9
6.5°	534.2	534.8	535.2	535.3	534.6	533.9	532.8	531.8	530.6	529.5	529.1
7°	533.7	534.4	534.9	534.9	534.2	533.4	532.3	531.2	529.9	528.7	528.2
7.5°	533.2	533.9	534.5	534.5	533.8	532.9	531.8	530.4	529.1	527.9	527.4
8°	532.7	533.4	534.0	534.1	533.3	532.4	531.1	529.7	528.3	527.0	526.4
8.5°	532.0	532.9	533.5	533.5	532.8	531.7	530.4	528.9	527.4	526.1	525.5
9°	531.4	532.4	533.0	533.0	532.2	531.1	529.6	528.1	526.5	525.1	524.5
9.5°	530.7	531.7	532.4	532.4	531.6	530.5	528.9	527.2	525.6	524.1	523.4
10°	530.0	531.1	531.7	531.7	530.9	529.7	528.1	526.3	524.6	523.0	522.3
10.5°	529.2	530.4	531.0	531.0	530.2	528.9	527.3	525.3	523.5	521.9	521.1
11°	528.4	529.6	530.3	530.3	529.4	528.1	526.3	524.3	522.4	520.7	519.9
11.5°	527.5	528.8	529.5	529.5	528.6	527.2	525.3	523.3	521.3	519.5	518.7
12°	526.6	528.0	528.7	528.7	527.7	526.3	524.3	522.1	520.1	518.3	517.4
12.5°	525.7	527.1	527.8	527.8	526.9	525.3	523.3	521.0	518.8	516.9	516.0
13°	524.6	526.1	526.9	526.8	525.9	524.3	522.2	519.8	517.5	515.6	514.7
13.5°	523.5	525.0	525.9	525.8	524.9	523.2	521.1	518.5	516.2	514.2	513.2
14°	522.4	524.0	524.9	524.8	523.8	522.1	519.9	517.3	514.8	512.8	511.7
14.5°	521.3	522.9	523.9	523.7	522.8	520.9	518.6	515.9	513.4	511.3	510.2
15°	520.1	521.9	522.8	522.6	521.6	519.8	517.3	514.5	511.9	509.7	508.7
15.5°	518.8	520.6	521.6	521.4	520.4	518.5	516.0	513.2	510.4	508.2	507.0
16°	517.5	519.4	520.4	520.1	519.1	517.2	514.6	511.6	508.8	506.5	505.3
16.5°	516.2	518.1	519.1	518.8	517.9	515.9	513.2	510.1	507.2	504.9	503.6
17°	514.7	516.8	517.8	517.5	516.6	514.5	511.7	508.5	505.6	503.2	501.8
17.5°	513.3	515.4	516.5	516.1	515.2	513.1	510.1	506.9	503.8	501.3	500.0
18°	511.8	513.9	515.0	514.7	513.8	511.6	508.6	505.2	502.1	499.5	498.1
18.5°	510.3	512.5	513.6	513.1	512.3	510.0	507.0	503.5	500.3	497.6	496.2
19°	508.6	511.0	512.0	511.7	510.7	508.4	505.3	501.7	498.4	495.6	494.2
19.5°	507.0	509.4	510.5	510.1	509.1	506.8	503.6	499.9	496.5	493.7	492.2
20°	505.3	507.7	508.9	508.5	507.5	505.1	501.8	498.1	494.6	491.7	490.1
20.5°	503.6	506.0	507.2	506.8	505.8	503.4	500.0	496.1	492.5	489.6	488.0
21°	501.7	504.3	505.4	505.1	504.0	501.6	498.0	494.1	490.5	487.4	485.8



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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°	496.0	498.7	500.0	499.5	498.5	495.9	492.1	488.0	484.0	480.7	479.0
23°	493.9	496.8	498.0	497.6	496.6	493.9	490.1	485.7	481.7	478.5	476.6
23.5°	491.9	494.8	496.1	495.6	494.5	491.9	487.9	483.6	479.4	476.0	474.2
24°	489.7	492.7	494.0	493.6	492.5	489.8	485.7	481.3	477.1	473.7	471.7
24.5°	487.5	490.6	491.9	491.4	490.4	487.6	483.5	479.0	474.6	471.1	469.1
25°	485.2	488.4	489.7	489.2	488.2	485.3	481.3	476.6	472.1	468.6	466.5
25.5°	483.0	486.2	487.5	487.0	486.0	483.1	479.0	474.1	469.7	466.1	463.9
26°	480.7	483.9	485.2	484.8	483.7	480.8	476.6	471.7	467.1	463.4	461.3
26.5°	478.3	481.6	483.0	482.5	481.3	478.5	474.1	469.2	464.5	460.7	458.5
27°	475.8	479.2	480.5	480.1	478.9	476.1	471.7	466.6	461.8	458.0	455.7
27.5°	473.3	476.7	478.2	477.6	476.6	473.6	469.1	464.0	459.1	455.2	452.9
28°	470.7	474.2	475.7	475.1	474.1	471.1	466.5	461.2	456.3	452.4	450.1
28.5°	468.1	471.6	473.1	472.6	471.5	468.5	463.9	458.5	453.5	449.4	447.1
29°	465.5	469.1	470.5	470.0	468.9	465.8	461.1	455.7	450.7	446.6	444.1
29.5°	462.7	466.5	467.9	467.4	466.3	463.2	458.4	452.9	447.7	443.5	441.1
30°	459.9	463.7	465.1	464.7	463.6	460.4	455.6	450.0	444.8	440.5	438.0
30.5°	457.2	460.9	462.4	461.9	460.9	457.7	452.8	447.1	441.7	437.4	434.8
31°	454.2	458.1	459.6	459.1	458.0	454.8	449.8	444.1	438.7	434.3	431.7
31.5°	451.3	455.2	456.7	456.2	455.2	451.9	446.9	441.0	435.6	431.1	428.4
32°	448.3	452.2	453.8	453.3	452.3	449.0	443.9	438.0	432.4	427.8	425.2
32.5°	445.2	449.2	450.9	450.3	449.3	446.0	440.8	434.8	429.1	424.5	421.7
33°	442.2	446.2	447.9	447.3	446.4	443.0	437.7	431.7	425.8	421.2	418.5
33.5°	439.0	443.1	444.8	444.3	443.3	439.9	434.5	428.3	422.6	417.7	415.0
34°	435.7	439.9	441.7	441.1	440.1	436.8	431.4	425.0	419.2	414.3	411.6
34.5°	432.5	436.7	438.5	437.9	436.9	433.5	428.0	421.7	415.8	410.9	408.0
35°	429.1	433.4	435.3	434.7	433.8	430.2	424.7	418.4	412.5	407.4	404.6
35.5°	425.7	430.0	432.0	431.4	430.4	426.9	421.3	414.9	409.0	403.8	401.0
36°	422.3	426.7	428.5	428.1	427.2	423.6	418.0	411.4	405.4	400.3	397.4
36.5°	418.8	423.2	425.1	424.7	423.7	420.2	414.6	408.0	401.9	396.7	393.8
37°	415.3	419.7	421.7	421.3	420.4	416.8	411.1	404.6	398.2	393.0	390.2
37.5°	411.8	416.2	418.3	417.8	416.9	413.2	407.6	400.9	394.6	389.4	386.4
38°	408.1	412.6	414.7	414.3	413.4	409.8	404.0	397.3	391.0	385.6	382.7
38.5°	404.5	409.0	411.1	410.8	409.8	406.2	400.4	393.7	387.3	381.9	378.9
39°	400.8	405.3	407.5	407.1	406.3	402.6	396.8	390.0	383.6	378.1	375.2
39.5°	397.0	401.6	403.8	403.5	402.7	398.9	393.0	386.3	379.8	374.3	371.4
40°	393.2	397.8	400.2	399.8	399.0	395.3	389.3	382.4	376.0	370.5	367.5
40.5°	389.4	394.0	396.3	396.1	395.3	391.5	385.5	378.6	372.2	366.5	363.7
41°	385.4	390.1	392.5	392.3	391.4	387.7	381.7	374.8	368.3	362.7	359.7
41.5°	381.4	386.2	388.6	388.5	387.7	383.9	377.9	371.0	364.5	358.8	355.8
42°	377.5	382.3	384.8	384.7	383.9	380.0	374.0	367.2	360.5	354.8	351.8
42.5°	373.5	378.3	380.9	380.8	380.0	376.1	370.1	363.2	356.5	350.9	347.9
43°	369.5	374.2	376.9	376.9	376.2	372.2	366.2	359.3	352.6	346.8	343.9
43.5°	365.4	370.2	372.9	373.0	372.2	368.2	362.2	355.3	348.6	342.8	339.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	352.8	357.6	360.6	360.8	360.0	356.0	350.1	343.3	336.4	330.5	327.7
45.5°	348.4	353.3	356.3	356.7	355.9	351.8	345.9	339.0	332.3	326.4	323.6
46°	344.1	349.1	352.1	352.5	351.7	347.6	341.8	334.9	328.1	322.2	319.4
46.5°	339.7	344.5	347.8	348.2	347.5	343.4	337.5	330.7	323.8	318.0	315.2
47°	335.1	340.1	343.4	343.9	343.3	339.0	333.1	326.3	319.5	313.7	310.8
47.5°	330.5	335.5	338.9	339.5	339.0	334.6	328.7	321.9	315.2	309.2	306.4
48°	325.9	330.8	334.4	335.0	334.4	330.2	324.6	317.6	310.8	304.8	302.0
48.5°	321.0	326.0	329.6	330.4	330.0	325.8	319.8	313.1	306.2	300.3	297.4
49°	316.2	321.3	324.9	325.9	325.4	321.0	315.2	308.4	301.4	295.5	292.6
49.5°	311.1	316.3	320.0	321.0	320.7	316.3	310.4	303.6	296.7	290.7	287.7
50°	305.8	311.1	315.0	316.1	315.8	311.5	305.7	298.8	291.7	285.7	282.6
50.5°	300.4	305.6	309.8	310.8	310.7	306.6	300.6	293.6	286.6	280.4	277.4
51°	295.1	300.3	304.4	305.7	305.6	301.2	295.2	288.3	281.2	275.1	272.1
51.5°	289.3	294.6	298.8	300.2	300.4	295.9	289.9	282.9	276.0	270.0	266.8
52°	283.6	289.1	293.3	294.7	294.8	290.4	284.4	277.3	270.3	264.4	261.2
52.5°	277.9	283.2	287.6	288.9	289.2	284.7	278.7	271.7	264.9	258.9	255.7
53°	272.2	277.4	281.8	283.4	283.5	279.1	273.0	266.1	259.4	253.4	250.4
53.5°	266.6	271.6	276.1	277.6	277.9	273.6	267.4	260.8	254.1	248.4	245.5
54°	261.2	266.3	270.6	272.3	272.4	268.0	262.1	255.4	249.1	243.3	240.3
54.5°	255.5	260.8	265.1	266.8	266.9	262.8	256.7	249.9	243.6	237.8	234.9
55°	249.1	254.2	258.9	260.7	261.3	256.8	250.8	243.9	237.4	231.7	228.8
55.5°	242.0	247.1	252.0	253.8	254.7	250.4	244.1	237.1	230.0	224.1	221.5
56°	233.7	239.5	244.0	245.9	247.4	243.2	236.5	228.9	221.7	216.0	213.2
56.5°	224.9	230.9	235.5	237.6	239.3	235.2	228.4	220.4	213.2	207.1	204.3
57°	215.5	221.4	226.5	228.7	230.7	226.2	219.4	211.5	204.0	197.9	194.9
57.5°	205.6	211.2	217.1	219.7	221.7	216.9	210.1	202.3	194.7	188.7	185.3
58°	195.3	201.0	207.4	210.5	212.5	207.1	200.1	192.5	185.2	179.0	175.6
58.5°	185.2	190.7	197.3	201.0	203.1	197.4	190.3	182.9	175.7	169.7	165.9
59°	174.5	180.5	187.3	191.3	193.1	186.8	179.9	172.7	165.8	159.9	155.9
59.5°	164.2	170.0	177.0	181.1	183.0	176.6	169.5	162.5	156.0	150.2	146.2
60°	153.6	159.9	166.7	171.1	172.9	166.3	159.1	152.1	146.3	140.7	136.8
60.5°	143.6	149.8	156.3	160.7	162.8	156.4	148.7	142.2	136.6	131.1	127.3
61°	133.5	139.9	145.9	150.3	152.3	146.3	138.6	131.9	126.8	121.9	118.1
61.5°	123.7	130.3	135.9	139.7	142.3	136.8	128.7	122.1	117.3	112.9	109.0
62°	114.2	120.5	126.1	129.4	132.4	126.8	119.1	112.4	108.0	104.1	100.4
62.5°	105.0	111.2	116.4	119.0	122.2	117.2	109.5	102.9	99.4	95.9	92.4
63°	96.1	102.0	106.9	109.1	112.5	107.8	101.1	94.4	90.8	87.7	84.2
63.5°	87.4	93.1	97.3	99.0	103.1	99.2	92.6	85.7	82.1	79.3	76.1
64°	78.9	84.2	88.3	89.6	94.2	90.5	84.0	77.1	73.5	71.1	68.1
64.5°	71.0	76.0	79.4	80.4	85.2	81.8	75.5	68.6	65.0	62.8	60.9
65°	63.7	68.0	70.9	71.8	76.2	73.1	67.1	61.1	57.5	55.6	54.3
65.5°	56.3	60.3	62.9	63.8	67.3	64.5	59.5	54.2	50.7	48.8	48.2
66°	48.8	52.9	55.1	56.0	59.1	56.6	52.6	47.9	44.2	42.6	42.5





TEST NUMBER: P775835

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	32.0	34.1	35.5	36.3	38.1	37.0	34.7	31.9	27.9	28.0	28.6
68°	28.3	30.2	31.8	32.5	32.5	31.5	29.7	27.8	24.1	24.6	25.1
68.5°	24.6	26.4	28.2	28.7	27.7	26.7	25.6	24.2	21.1	22.0	22.2
69°	21.0	22.6	24.6	25.0	23.7	22.8	22.3	21.2	18.9	19.8	19.8
69.5°	17.3	18.8	21.0	21.2	20.5	19.9	19.5	18.8	17.4	18.0	17.9
70°	16.4	17.0	17.4	17.4	18.1	17.8	17.5	17.1	16.5	16.6	16.7
70.5°	15.6	15.9	16.2	16.2	16.6	16.5	16.4	16.1	15.7	15.8	15.8
71°	14.7	15.1	15.4	15.4	15.7	15.7	15.6	15.3	14.9	15.0	15.1
71.5°	13.9	14.4	14.7	14.7	15.0	14.9	14.8	14.5	14.0	14.2	14.3
72°	13.1	13.6	13.9	13.9	14.2	14.2	14.1	13.8	13.3	13.5	13.6
72.5°	12.4	12.8	13.2	13.2	13.5	13.4	13.3	13.0	12.5	12.7	12.9
73°	11.6	12.1	12.4	12.5	12.8	12.7	12.6	12.3	11.8	12.0	12.2
73.5°	10.9	11.4	11.7	11.8	12.1	12.0	11.9	11.6	11.1	11.3	11.5
74°	10.3	10.7	11.1	11.1	11.4	11.3	11.3	10.9	10.4	10.6	10.8
74.5°	9.6	10.0	10.4	10.4	10.7	10.7	10.6	10.2	9.7	10.0	10.2
75°	9.0	9.4	9.8	9.8	10.1	10.0	10.0	9.6	9.1	9.3	9.6
75.5°	8.4	8.8	9.2	9.2	9.5	9.4	9.4	9.0	8.6	8.7	9.0
76°	7.8	8.2	8.6	8.6	8.9	8.9	8.8	8.4	8.0	8.2	8.5
76.5°	7.3	7.6	8.0	8.1	8.4	8.3	8.3	7.9	7.5	7.7	7.9
77°	6.8	7.1	7.5	7.6	7.8	7.8	7.7	7.4	6.9	7.1	7.4
77.5°	6.3	6.6	7.0	7.1	7.3	7.3	7.2	6.8	6.4	6.6	6.9
78°	5.8	6.1	6.5	6.6	6.8	6.8	6.7	6.3	5.9	6.1	6.3
78.5°	5.4	5.7	6.0	6.1	6.3	6.3	6.2	5.8	5.4	5.6	5.9
79°	5.0	5.2	5.6	5.7	5.8	5.8	5.7	5.3	5.0	5.1	5.4
79.5°	4.5	4.8	5.2	5.2	5.4	5.4	5.3	4.9	4.6	4.7	5.0
80°	4.2	4.4	4.7	4.8	5.0	5.0	4.9	4.5	4.2	4.3	4.6
80.5°	3.8	4.0	4.3	4.4	4.6	4.6	4.5	4.1	3.8	3.9	4.2
81°	3.4	3.6	4.0	4.1	4.2	4.2	4.1	3.7	3.4	3.5	3.8
81.5°	3.1	3.3	3.6	3.7	3.8	3.8	3.7	3.4	3.1	3.2	3.4
82°	2.8	3.0	3.3	3.3	3.5	3.5	3.4	3.0	2.8	2.8	3.1
82.5°	2.4	2.6	2.9	3.0	3.1	3.1	3.0	2.7	2.4	2.5	2.8
83°	2.1	2.3	2.6	2.7	2.8	2.8	2.7	2.4	2.1	2.2	2.5
83.5°	1.9	2.0	2.3	2.4	2.5	2.5	2.4	2.1	1.9	1.9	2.2
84°	1.6	1.7	2.0	2.1	2.2	2.2	2.1	1.8	1.6	1.7	1.9
84.5°	1.4	1.5	1.7	1.8	1.9	1.9	1.8	1.5	1.4	1.4	1.6
85°	1.2	1.3	1.5	1.6	1.7	1.7	1.6	1.3	1.2	1.2	1.4
85.5°	0.9	1.0	1.3	1.4	1.4	1.4	1.3	1.0	1.0	0.9	1.2
86°	0.8	0.8	1.1	1.1	1.2	1.2	1.1	0.8	0.8	0.7	1.0
86.5°	0.6	0.6	0.9	0.9	1.0	1.0	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: P775835  
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**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: P775835

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	535.9	535.9	535.9	535.9	535.9	535.9
0.5°	535.7	535.3	535.5	535.8	536.1	536.2
1°	535.4	535.0	535.3	535.7	536.1	536.2
1.5°	535.1	534.7	535.0	535.6	536.1	536.3
2°	534.7	534.4	534.7	535.4	536.0	536.2
2.5°	534.3	534.0	534.4	535.1	535.8	536.1
3°	533.8	533.5	534.0	534.8	535.6	536.1
3.5°	533.3	533.0	533.6	534.5	535.4	535.9
4°	532.7	532.5	533.1	534.1	535.1	535.8
4.5°	532.1	531.9	532.6	533.7	534.8	535.5
5°	531.5	531.2	532.1	533.2	534.4	535.3
5.5°	530.7	530.6	531.5	532.7	534.0	535.0
6°	530.0	529.9	530.8	532.2	533.5	534.6
6.5°	529.3	529.1	530.1	531.5	533.0	534.2
7°	528.4	528.3	529.5	530.9	532.5	533.7
7.5°	527.6	527.4	528.7	530.2	531.9	533.2
8°	526.6	526.5	527.8	529.4	531.3	532.7
8.5°	525.7	525.5	526.9	528.7	530.5	532.0
9°	524.7	524.5	525.9	527.8	529.8	531.4
9.5°	523.6	523.5	525.0	526.9	529.0	530.7
10°	522.5	522.4	524.0	526.0	528.2	530.0
10.5°	521.3	521.3	522.9	525.0	527.3	529.2
11°	520.2	520.1	521.8	524.0	526.4	528.4
11.5°	518.9	518.9	520.6	522.9	525.5	527.5
12°	517.6	517.6	519.4	521.8	524.4	526.6
12.5°	516.3	516.3	518.2	520.6	523.4	525.7
13°	514.9	514.9	516.9	519.4	522.3	524.6
13.5°	513.4	513.5	515.5	518.1	521.1	523.5
14°	511.9	511.9	514.1	516.8	519.9	522.4
14.5°	510.4	510.4	512.7	515.5	518.6	521.3
15°	508.9	508.9	511.2	514.1	517.3	520.1
15.5°	507.2	507.3	509.5	512.6	516.0	518.8
16°	505.5	505.6	507.9	511.1	514.6	517.5
16.5°	503.8	503.9	506.3	509.5	513.1	516.2
17°	502.1	502.2	504.6	507.9	511.6	514.7
17.5°	500.1	500.3	502.9	506.3	510.1	513.3
18°	498.3	498.5	501.0	504.6	508.4	511.8
18.5°	496.4	496.5	499.2	502.8	506.8	510.3
19°	494.4	494.6	497.3	501.0	505.1	508.6
19.5°	492.4	492.5	495.3	499.2	503.4	507.0
20°	490.3	490.5	493.3	497.3	501.5	505.3
20.5°	488.1	488.3	491.3	495.3	499.7	503.6
21°	485.9	486.1	489.1	493.3	497.8	501.7



TEST NUMBER: P775835

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	479.0	479.3	482.6	486.9	491.8	496.0
23°	476.7	476.9	480.2	484.7	489.7	493.9
23.5°	474.2	474.5	477.9	482.5	487.5	491.9
24°	471.7	472.0	475.5	480.1	485.3	489.7
24.5°	469.2	469.5	472.9	477.8	483.0	487.5
25°	466.6	466.9	470.4	475.3	480.7	485.2
25.5°	463.9	464.3	467.9	472.9	478.3	483.0
26°	461.3	461.6	465.3	470.3	475.9	480.7
26.5°	458.5	458.9	462.7	467.8	473.3	478.3
27°	455.7	456.1	459.9	465.1	470.8	475.8
27.5°	452.9	453.2	457.1	462.4	468.2	473.3
28°	450.0	450.3	454.3	459.7	465.6	470.7
28.5°	447.0	447.4	451.5	456.9	462.9	468.1
29°	444.0	444.4	448.4	454.1	460.1	465.5
29.5°	440.9	441.4	445.5	451.2	457.3	462.7
30°	437.7	438.2	442.5	448.2	454.5	459.9
30.5°	434.6	435.1	439.3	445.2	451.5	457.2
31°	431.5	431.9	436.3	442.2	448.5	454.2
31.5°	428.1	428.6	433.1	439.1	445.5	451.3
32°	424.8	425.2	429.7	436.0	442.5	448.3
32.5°	421.4	421.9	426.4	432.7	439.4	445.2
33°	418.1	418.6	423.2	429.4	436.3	442.2
33.5°	414.7	415.1	419.7	426.2	433.0	439.0
34°	411.2	411.6	416.3	422.8	429.6	435.7
34.5°	407.6	408.2	412.9	419.4	426.3	432.5
35°	404.1	404.5	409.4	416.0	422.9	429.1
35.5°	400.6	401.1	405.8	412.5	419.5	425.7
36°	397.0	397.4	402.3	409.0	416.0	422.3
36.5°	393.3	393.9	398.7	405.5	412.6	418.8
37°	389.7	390.2	395.0	401.9	409.0	415.3
37.5°	385.9	386.4	391.3	398.2	405.4	411.8
38°	382.2	382.6	387.5	394.5	401.7	408.1
38.5°	378.5	378.9	383.8	390.8	398.0	404.5
39°	374.6	375.1	380.0	387.1	394.3	400.8
39.5°	370.8	371.2	376.2	383.2	390.6	397.0
40°	367.0	367.4	372.3	379.4	386.8	393.2
40.5°	363.1	363.5	368.3	375.5	383.0	389.4
41°	359.3	359.6	364.5	371.6	379.0	385.4
41.5°	355.3	355.5	360.4	367.6	375.1	381.4
42°	351.4	351.7	356.5	363.8	371.2	377.5
42.5°	347.5	347.6	352.5	359.8	367.1	373.5
43°	343.4	343.7	348.6	355.7	363.1	369.5
43.5°	339.4	339.6	344.4	351.6	359.0	365.4



TEST NUMBER: P775835

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	327.3	327.4	332.0	339.2	346.6	352.8
45.5°	323.2	323.2	327.8	335.0	342.2	348.4
46°	319.0	318.9	323.5	330.7	337.9	344.1
46.5°	314.8	314.5	319.2	326.3	333.5	339.7
47°	310.5	310.3	314.7	321.8	329.0	335.1
47.5°	306.0	305.7	310.0	317.2	324.4	330.5
48°	301.5	301.1	305.4	312.5	319.6	325.9
48.5°	296.9	296.3	300.7	307.7	314.8	321.0
49°	292.1	291.5	295.8	302.7	310.0	316.2
49.5°	287.2	286.5	290.7	297.8	304.9	311.1
50°	282.1	281.2	285.5	292.4	299.7	305.8
50.5°	276.9	276.1	280.2	287.1	294.2	300.4
51°	271.6	270.7	274.9	281.8	288.8	295.1
51.5°	266.2	265.3	269.3	276.4	283.3	289.3
52°	260.6	259.9	264.0	270.8	277.6	283.6
52.5°	255.1	254.4	258.6	265.2	271.6	277.9
53°	249.9	249.3	253.3	259.9	266.3	272.2
53.5°	244.8	244.4	248.4	254.7	261.0	266.6
54°	239.9	239.4	243.3	249.7	255.7	261.2
54.5°	234.4	233.8	237.8	244.0	250.0	255.5
55°	228.5	227.4	231.7	237.9	243.9	249.1
55.5°	221.5	219.8	224.1	230.3	236.4	242.0
56°	213.0	211.4	215.8	221.9	228.1	233.7
56.5°	204.1	202.4	206.7	213.1	219.1	224.9
57°	194.9	192.9	197.3	203.7	210.0	215.5
57.5°	185.3	183.0	187.8	194.2	200.3	205.6
58°	175.6	173.0	178.1	184.6	190.5	195.3
58.5°	165.5	163.2	168.3	174.9	179.8	185.2
59°	155.4	153.1	158.4	164.7	169.9	174.5
59.5°	145.5	143.6	148.7	154.9	159.7	164.2
60°	135.6	133.9	139.1	144.9	149.2	153.6
60.5°	126.0	124.4	129.5	134.9	138.7	143.6
61°	116.4	114.9	119.9	124.9	128.8	133.5
61.5°	107.5	106.2	110.7	115.4	119.1	123.7
62°	99.4	97.2	101.9	105.7	109.2	114.2
62.5°	91.4	88.8	93.1	96.4	100.0	105.0
63°	83.3	80.6	84.4	87.4	90.8	96.1
63.5°	75.3	72.8	76.3	78.7	82.1	87.4
64°	67.3	65.3	68.2	70.4	73.6	78.9
64.5°	60.6	58.5	60.7	62.7	66.0	71.0
65°	54.3	51.9	53.6	55.3	58.6	63.7
65.5°	48.4	46.0	46.9	48.5	51.7	56.3
66°	42.8	40.4	40.6	42.3	45.4	48.8



TEST NUMBER: P775835

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	29.2	28.8	28.6	29.9	30.9	32.0
68°	25.5	25.5	25.4	26.4	27.3	28.3
68.5°	22.4	22.2	22.2	22.9	23.8	24.6
69°	19.9	18.9	19.0	19.4	20.2	21.0
69.5°	17.9	17.2	17.3	17.6	18.0	17.3
70°	16.6	16.2	16.3	16.5	16.6	16.4
70.5°	15.8	15.5	15.6	15.7	15.7	15.6
71°	15.1	14.7	14.8	15.0	15.0	14.7
71.5°	14.3	14.0	14.1	14.2	14.2	13.9
72°	13.6	13.2	13.3	13.5	13.4	13.1
72.5°	12.8	12.5	12.6	12.8	12.7	12.4
73°	12.1	11.8	11.9	12.0	11.9	11.6
73.5°	11.5	11.2	11.2	11.4	11.2	10.9
74°	10.8	10.5	10.6	10.7	10.6	10.3
74.5°	10.2	9.9	10.0	10.1	9.9	9.6
75°	9.6	9.3	9.4	9.4	9.3	9.0
75.5°	9.0	8.7	8.8	8.9	8.7	8.4
76°	8.5	8.2	8.2	8.3	8.1	7.8
76.5°	7.9	7.6	7.7	7.7	7.5	7.3
77°	7.4	7.1	7.2	7.2	7.0	6.8
77.5°	6.9	6.6	6.7	6.7	6.5	6.3
78°	6.4	6.2	6.2	6.3	6.0	5.8
78.5°	5.9	5.7	5.8	5.8	5.6	5.4
79°	5.5	5.3	5.3	5.4	5.1	5.0
79.5°	5.1	4.9	4.9	4.9	4.7	4.5
80°	4.7	4.5	4.5	4.5	4.3	4.2
80.5°	4.3	4.1	4.1	4.1	3.9	3.8
81°	3.9	3.8	3.8	3.8	3.6	3.4
81.5°	3.5	3.4	3.5	3.4	3.2	3.1
82°	3.2	3.1	3.1	3.1	2.9	2.8
82.5°	2.9	2.8	2.8	2.8	2.5	2.4
83°	2.6	2.4	2.5	2.4	2.2	2.1
83.5°	2.3	2.2	2.2	2.1	1.9	1.9
84°	2.0	1.9	1.9	1.9	1.7	1.6
84.5°	1.7	1.6	1.7	1.6	1.4	1.4
85°	1.5	1.4	1.4	1.4	1.2	1.2
85.5°	1.3	1.2	1.2	1.2	0.9	0.9
86°	1.0	1.0	1.0	1.0	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: P775835  
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-2700K

**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

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Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9



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— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - 135°-315°

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21.5°	499.8	502.5	503.7	503.3	502.2	499.7	496.1	492.1	488.4	485.2	483.6
22°	497.9	500.7	501.8	501.5	500.4	497.8	494.1	490.1	486.3	483.1	481.3



44°	361.2	366.1	368.8	368.9	368.1	364.2	358.2	351.4	344.5	338.7	335.9
44.5°	357.0	361.8	364.6	364.9	364.2	360.0	354.1	347.3	340.5	334.7	331.8



66.5°	41.9	46.3	48.0	48.9	51.6	49.5	46.0	41.9	38.1	37.0	37.4
67°	35.7	39.9	41.4	42.2	44.7	43.0	40.0	36.7	32.5	32.1	32.7



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



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21.5°	483.7	484.0	487.0	491.3	495.8	499.8
22°	481.4	481.7	484.8	489.1	493.8	497.9



44°	335.4	335.6	340.4	347.6	354.9	361.2
44.5°	331.4	331.5	336.2	343.5	350.8	357.0



66.5°	37.8	35.5	35.1	36.8	39.9	41.9
67°	33.4	32.2	31.8	33.3	34.5	35.7

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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)