

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: P775686

Luminaire Tested: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775686  
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-HCD4TRMW-1000lm-3000K  
Description: 4 INCH ROUND MEDIUM MATTE WHITE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1037.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.03 / 1.03 / 1.02  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

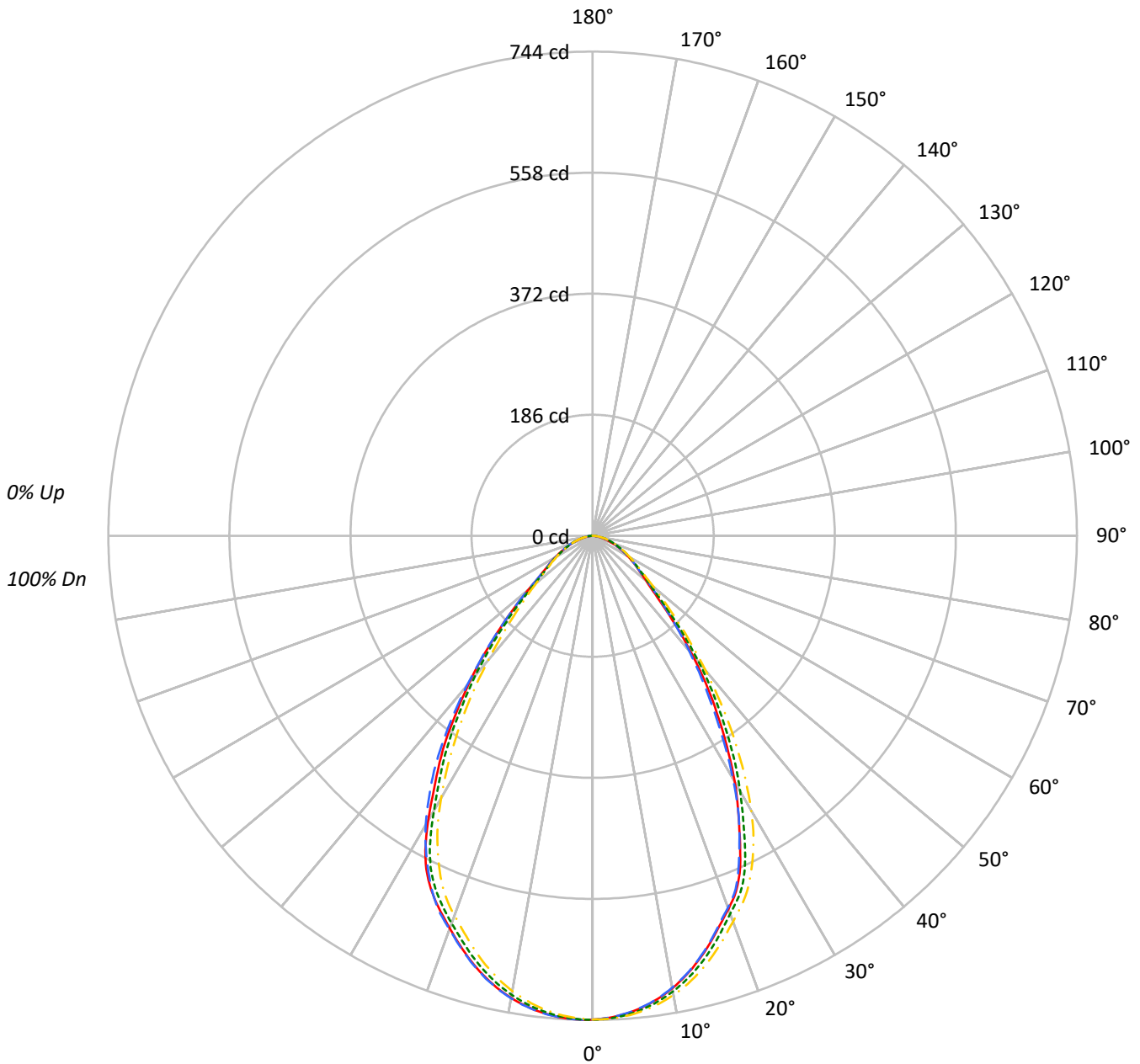
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20										
RC	80					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								
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90								
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80								
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	76	73	72								
4	91	82	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	65								
5	85	75	68	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	62	56	78	68	61	56	66	60	56	65	60	55	64	59	55	53								
7	75	64	57	51	74	63	56	51	62	56	51	60	55	51	59	54	50	49								
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45								
9	67	55	48	44	65	55	48	43	54	48	43	53	47	43	52	47	43	41								
10	63	52	45	40	62	51	45	40	50	44	40	49	44	40	49	44	40	38								

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

	0°	90°	180°	270°
0°	93569	93569	93569	93569
5°	92550	92903	93421	93131
10°	90208	90860	92137	91524
15°	86330	87359	89587	88649
20°	81735	82793	85954	84829
25°	74526	76970	82219	80733
30°	63446	65873	73401	70843
35°	51222	53972	61531	58949
40°	38968	41778	48464	46033
45°	27533	29918	35685	33424
50°	20988	22241	25080	23377
55°	17882	18650	19264	18387
60°	15631	16486	16738	16033
65°	13371	14562	14324	13966
70°	11333	12952	12216	12400
75°	9141	11573	10211	10892
80°	6378	10074	7827	9349
85°	2166	7942	3466	6787

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 202.5°  
 Vertical Angle: 45°  
 Luminance: 36165 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.5	6.7
10°-20°	189.4	18.3
20°-30°	256.8	24.8
30°-40°	228.1	22.0
40°-50°	139.6	13.5
50°-60°	77.4	7.5
60°-70°	47.5	4.6
70°-80°	23.5	2.3
80°-90°	5.1	0.5
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°	515.8	49.7
0°-40°	743.8	71.7
0°-60°	960.9	92.7
0°-90°	1037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1037.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	744	744	744	744	744	
5°	733	735	740	737	733	69
15°	663	670	688	680	663	186
25°	537	554	592	581	537	244
35°	333	351	400	384	333	208
45°	155	168	200	188	155	123
55°	82	85	88	84	82	74
65°	45	49	48	47	45	45
75°	19	24	21	22	19	20
85°	2	6	2	5	2	3
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°	743.5	743.5	743.5	743.5	743.5	743.5	743.5	743.5	743.5	743.5	743.5
0.5°	743.1	743.2	743.0	742.6	743.7	743.3	743.3	743.6	743.8	744.0	743.8
1°	742.6	742.7	742.5	742.1	743.3	743.2	743.2	743.7	743.9	744.1	743.9
1.5°	741.9	741.9	741.7	741.4	742.8	742.9	742.9	743.6	743.9	744.1	743.9
2°	741.1	741.0	740.8	740.6	742.2	742.4	742.6	743.1	743.7	744.0	743.7
2.5°	740.1	740.0	739.8	739.6	741.4	741.8	742.1	742.8	743.3	743.7	743.3
3°	738.9	738.9	738.7	738.5	740.5	741.0	741.5	742.3	742.8	743.1	742.8
3.5°	737.5	737.5	737.2	737.2	739.5	740.1	740.7	741.6	742.2	742.5	742.2
4°	736.1	736.0	735.7	735.8	738.2	739.1	739.7	740.8	741.5	741.8	741.5
4.5°	734.6	734.4	734.1	734.3	736.9	737.7	738.6	739.8	740.6	741.0	740.6
5°	732.6	732.5	732.3	732.5	735.4	736.4	737.3	738.7	739.5	740.0	739.6
5.5°	730.7	730.5	730.3	730.6	733.6	734.8	735.8	737.4	738.2	738.8	738.5
6°	728.7	728.4	728.1	728.5	731.7	733.1	734.4	736.0	736.9	737.4	737.2
6.5°	726.3	726.0	726.0	726.3	729.7	731.2	732.6	734.4	735.5	736.0	735.8
7°	724.0	723.7	723.6	724.0	727.5	729.2	730.8	732.6	734.0	734.5	734.2
7.5°	721.3	720.9	720.8	721.4	725.2	727.0	728.8	730.8	732.1	732.7	732.4
8°	718.7	718.3	718.0	718.7	722.5	724.7	726.6	728.8	730.1	730.8	730.5
8.5°	715.7	715.3	715.1	715.7	720.0	722.2	724.3	726.6	728.0	728.7	728.6
9°	712.6	712.1	711.9	712.7	717.1	719.6	721.8	724.2	725.9	726.6	726.4
9.5°	709.3	708.7	708.6	709.5	714.1	716.8	719.2	721.8	723.6	724.3	724.1
10°	705.9	705.2	705.1	706.0	711.0	713.9	716.4	719.2	721.0	721.9	721.6
10.5°	702.3	701.6	701.5	702.4	707.7	710.8	713.5	716.4	718.3	719.3	719.1
11°	698.6	697.8	697.6	698.8	704.1	707.4	710.3	713.6	715.5	716.5	716.3
11.5°	694.6	693.7	693.7	694.9	700.6	704.0	707.1	710.3	712.6	713.6	713.5
12°	690.5	689.7	689.6	690.8	696.8	700.4	703.7	707.1	709.6	710.6	710.3
12.5°	686.2	685.3	685.3	686.4	692.6	696.5	700.0	703.8	706.2	707.3	707.0
13°	681.8	680.9	680.7	682.1	688.6	692.6	696.3	700.3	702.8	704.1	703.8
13.5°	677.0	676.0	676.2	677.5	684.4	688.5	692.4	696.6	699.3	700.5	700.3
14°	672.5	671.4	671.3	672.7	679.9	684.2	688.3	692.6	695.6	696.8	696.4
14.5°	667.6	666.5	666.4	668.1	675.2	679.8	684.2	688.7	691.8	692.9	692.5
15°	662.6	661.3	661.2	663.0	670.5	675.2	679.9	684.5	687.6	689.0	688.6
15.5°	657.4	656.2	656.2	657.9	665.5	670.5	675.3	680.3	683.5	684.9	684.6
16°	652.1	650.9	650.8	652.5	660.5	665.7	670.7	676.0	679.3	680.7	680.3
16.5°	646.8	645.4	645.4	647.3	655.4	660.7	666.0	671.4	674.9	676.3	675.9
17°	641.5	639.9	640.0	641.9	650.1	655.6	661.2	666.8	670.3	671.8	671.5
17.5°	636.1	634.4	634.4	636.4	644.7	650.5	656.2	662.0	665.7	667.3	666.8
18°	630.4	628.8	628.7	630.8	639.4	645.2	651.2	657.1	661.0	662.6	662.2
18.5°	625.1	623.3	623.1	625.3	633.9	639.8	646.0	652.2	656.2	657.9	657.4
19°	620.0	618.1	617.8	619.9	628.4	634.6	640.8	647.2	651.4	653.2	652.6
19.5°	615.1	613.1	612.8	614.9	623.2	629.4	635.6	642.3	646.4	648.4	648.0
20°	610.3	608.2	608.0	610.0	618.2	624.5	630.9	637.4	641.8	643.7	643.5
20.5°	605.2	603.1	602.9	605.0	613.3	619.6	626.0	632.7	637.0	639.2	639.0
21°	600.1	598.0	597.9	600.1	608.4	615.0	621.3	627.9	632.4	634.8	634.6



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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°	581.7	578.7	578.5	581.9	593.0	599.9	606.6	613.6	618.3	620.7	620.4
23°	574.2	571.0	570.3	574.5	586.8	594.0	600.9	608.6	613.5	615.7	614.9
23.5°	566.1	562.9	561.5	566.6	579.8	587.5	595.0	603.4	608.5	610.2	609.2
24°	557.1	553.9	552.2	558.1	571.9	580.5	588.6	597.8	603.3	604.5	603.0
24.5°	547.3	544.7	542.8	549.0	563.6	573.1	581.7	591.9	597.8	598.4	596.5
25°	536.7	535.0	533.2	539.5	554.3	565.1	574.6	585.6	592.1	591.9	589.7
25.5°	526.4	524.8	523.9	529.6	544.6	556.2	567.1	579.1	586.1	585.1	582.5
26°	516.0	514.4	514.7	519.4	534.5	547.1	559.4	572.0	579.5	578.1	575.2
26.5°	505.6	503.4	505.4	509.0	523.7	537.5	551.2	564.4	572.4	570.4	567.8
27°	495.3	492.7	495.8	498.6	513.1	527.6	543.3	556.5	564.8	562.8	560.5
27.5°	485.5	481.9	486.0	487.8	502.9	517.6	535.0	548.4	556.5	554.8	553.2
28°	475.8	470.8	475.5	477.2	492.7	507.3	526.3	539.7	547.6	547.1	545.4
28.5°	466.3	460.4	464.7	466.8	482.8	497.6	517.3	530.9	537.7	538.8	537.8
29°	456.3	450.0	453.6	456.3	473.0	488.1	507.5	521.5	527.3	530.3	529.9
29.5°	446.6	439.7	442.5	445.7	463.2	478.7	497.5	511.8	516.4	521.5	521.5
30°	436.6	429.3	431.2	435.2	453.3	469.3	487.1	501.6	505.1	512.6	513.0
30.5°	426.5	419.2	419.6	424.6	443.6	460.0	476.6	490.4	493.6	502.8	503.7
31°	416.0	408.7	408.4	414.0	433.8	450.4	465.6	479.1	482.2	493.1	494.4
31.5°	405.5	398.3	397.3	403.6	423.6	440.7	454.6	467.3	471.1	483.0	484.5
32°	394.5	388.1	386.1	393.2	413.6	431.0	444.0	455.3	460.7	472.6	474.8
32.5°	383.9	377.6	374.8	382.7	403.5	421.0	433.4	443.5	450.5	461.6	465.1
33°	373.5	367.2	364.0	372.5	392.8	410.4	422.2	431.6	440.4	450.3	455.4
33.5°	363.2	357.3	353.2	362.4	382.2	399.9	411.0	420.1	430.4	439.2	445.1
34°	353.2	346.9	342.5	352.2	371.7	389.1	399.7	409.5	420.7	428.3	435.2
34.5°	343.2	336.7	332.0	342.0	361.5	378.0	388.7	398.4	410.6	417.3	424.3
35°	333.4	326.3	321.4	331.9	351.3	366.9	377.6	387.2	400.5	406.8	413.5
35.5°	323.8	316.6	311.4	321.8	341.6	356.3	366.7	376.5	389.9	396.5	402.2
36°	314.3	306.3	301.8	311.6	331.5	345.4	355.4	365.7	378.9	386.2	391.1
36.5°	304.6	296.3	292.4	301.2	322.0	334.8	344.6	354.8	368.0	375.8	379.5
37°	294.8	286.7	283.2	291.2	312.3	324.2	333.3	343.8	356.9	365.2	368.0
37.5°	285.1	277.1	274.0	281.2	302.7	314.0	322.4	332.9	345.9	355.1	356.7
38°	275.3	267.7	265.0	271.4	293.2	303.8	311.3	322.2	335.4	344.4	345.2
38.5°	265.5	258.2	255.9	262.3	283.6	293.8	300.7	311.7	325.5	333.9	333.6
39°	256.1	249.4	247.2	253.3	273.2	283.8	290.1	301.2	314.9	323.2	322.4
39.5°	246.5	240.7	238.6	244.6	263.7	273.8	280.2	291.3	305.1	312.6	311.2
40°	237.2	232.0	230.0	235.8	254.3	263.8	269.6	281.4	295.0	301.9	300.2
40.5°	228.2	223.5	221.9	227.4	244.6	253.4	259.7	271.9	285.9	291.4	289.1
41°	219.6	215.3	214.1	219.1	235.3	243.5	249.8	262.4	275.9	281.1	278.7
41.5°	210.8	207.1	206.5	211.2	226.3	233.8	240.5	253.3	265.7	270.9	268.5
42°	202.1	199.4	199.5	203.3	217.7	224.4	231.2	244.6	255.7	260.8	258.5
42.5°	193.8	191.9	192.4	195.7	208.9	215.0	222.4	235.8	246.4	251.0	248.8
43°	185.6	184.7	185.6	188.3	200.5	206.1	213.8	227.0	236.5	241.0	239.0
43.5°	177.4	177.5	178.7	181.2	192.0	197.5	205.8	218.6	227.0	231.3	229.6



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	154.7	158.0	160.1	161.5	168.1	174.0	182.0	193.6	200.5	203.2	202.4
45.5°	148.1	152.0	154.3	155.5	160.8	166.7	175.0	185.7	192.3	194.4	193.7
46°	142.0	146.3	148.9	149.8	153.8	159.6	167.9	177.9	184.2	185.7	185.4
46.5°	136.2	140.8	143.3	144.2	147.1	153.1	161.1	170.5	176.4	177.2	177.3
47°	130.9	135.5	138.3	138.8	141.1	146.7	154.7	163.3	168.7	168.8	169.5
47.5°	126.1	130.4	133.3	133.7	135.5	140.7	148.5	156.3	161.3	161.2	162.1
48°	121.8	125.8	128.6	128.9	130.2	135.2	142.8	149.8	154.3	153.9	154.8
48.5°	117.7	121.3	124.0	124.3	125.4	130.0	137.3	143.5	147.3	146.9	147.8
49°	114.1	117.1	119.9	119.9	121.1	125.3	131.9	137.5	140.6	140.2	141.1
49.5°	110.5	113.1	115.7	115.7	117.1	120.7	127.0	131.9	134.3	134.0	134.9
50°	107.2	109.4	111.7	111.7	113.6	116.5	122.2	126.5	128.1	128.0	128.8
50.5°	104.2	105.8	107.7	108.0	110.0	112.6	117.7	121.4	122.6	122.6	123.0
51°	101.2	102.5	104.3	104.5	106.6	109.1	113.5	116.6	117.4	117.5	117.7
51.5°	98.2	99.3	100.8	101.2	103.6	105.7	109.4	112.1	112.6	112.8	112.6
52°	95.5	96.2	97.5	97.9	100.7	102.4	105.6	107.9	108.1	108.3	107.9
52.5°	92.7	93.3	94.4	95.0	97.7	99.4	101.9	103.9	104.1	104.2	103.6
53°	90.1	90.6	91.4	92.0	94.9	96.4	98.6	100.1	100.4	100.3	99.5
53.5°	87.6	88.0	88.7	89.3	92.1	93.6	95.3	96.7	96.8	96.7	95.9
54°	85.4	85.7	86.1	86.7	89.6	91.0	92.2	93.5	93.6	93.4	92.6
54.5°	83.5	83.7	84.0	84.6	87.0	88.3	89.4	90.4	90.6	90.2	89.6
55°	81.5	81.7	82.0	82.5	85.0	86.2	87.1	87.6	87.8	87.5	87.3
55.5°	79.6	79.8	80.1	80.6	82.9	84.1	85.0	85.5	85.7	85.4	85.1
56°	77.6	77.8	78.2	78.6	80.9	82.0	82.8	83.4	83.5	83.1	82.8
56.5°	75.6	75.9	76.2	76.7	78.9	79.9	80.6	81.2	81.2	81.0	80.7
57°	73.7	74.0	74.3	74.7	77.0	77.8	78.5	79.0	79.0	78.8	78.5
57.5°	71.7	72.0	72.2	72.7	75.0	75.8	76.4	76.9	77.1	76.7	76.3
58°	69.8	70.1	70.3	70.8	73.0	73.9	74.4	74.9	75.0	74.7	74.2
58.5°	67.8	68.2	68.5	69.0	71.1	71.8	72.3	72.9	72.8	72.6	72.1
59°	66.0	66.3	66.6	67.1	69.2	69.9	70.4	70.9	70.7	70.5	70.1
59.5°	64.1	64.5	64.8	65.2	67.3	67.9	68.4	68.9	68.7	68.5	68.1
60°	62.1	62.7	62.9	63.5	65.5	66.2	66.5	66.9	66.5	66.5	66.1
60.5°	60.3	60.9	61.2	61.6	63.8	64.3	64.7	65.0	64.5	64.5	64.2
61°	58.5	59.1	59.5	59.9	61.9	62.5	62.8	63.2	62.5	62.5	62.3
61.5°	56.7	57.3	57.8	58.3	60.2	60.8	61.0	61.3	60.6	60.6	60.5
62°	54.9	55.6	56.2	56.5	58.5	59.1	59.3	59.6	58.7	58.8	58.8
62.5°	53.2	54.0	54.5	54.9	56.7	57.3	57.6	57.7	56.8	56.9	57.0
63°	51.4	52.2	53.0	53.4	55.1	55.7	55.9	56.0	55.0	55.1	55.3
63.5°	49.8	50.6	51.3	51.7	53.5	54.1	54.3	54.2	53.2	53.4	53.7
64°	48.2	49.0	49.9	50.2	51.9	52.4	52.6	52.4	51.4	51.6	52.0
64.5°	46.5	47.4	48.4	48.8	50.4	50.9	51.1	50.8	49.7	50.0	50.5
65°	44.9	45.8	46.9	47.2	48.9	49.4	49.6	49.2	48.1	48.4	48.9
65.5°	43.4	44.3	45.4	45.8	47.4	47.8	48.2	47.5	46.3	46.7	47.3
66°	41.8	42.9	44.0	44.4	45.9	46.4	46.6	46.0	44.8	45.2	45.9





TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	37.4	38.5	39.8	40.3	41.7	42.1	42.3	41.4	40.2	40.6	41.5
68°	36.1	37.0	38.5	39.0	40.4	40.8	41.0	40.0	38.8	39.2	40.1
68.5°	34.8	35.8	37.2	37.6	39.1	39.5	39.6	38.6	37.2	37.7	38.8
69°	33.5	34.5	35.9	36.4	37.7	38.2	38.3	37.1	35.9	36.4	37.4
69.5°	32.1	33.2	34.7	35.2	36.5	36.9	36.9	35.8	34.5	35.1	36.1
70°	30.8	31.8	33.5	34.1	35.2	35.6	35.7	34.5	33.2	33.8	34.8
70.5°	29.5	30.5	32.2	32.9	34.1	34.4	34.5	33.2	31.8	32.4	33.6
71°	28.3	29.3	31.0	31.6	32.9	33.2	33.2	31.8	30.6	31.1	32.3
71.5°	27.0	28.1	29.8	30.5	31.6	32.0	31.9	30.5	29.3	29.9	31.1
72°	25.7	26.8	28.6	29.3	30.4	30.8	30.7	29.3	28.1	28.7	29.9
72.5°	24.5	25.6	27.4	28.2	29.3	29.7	29.6	28.1	26.8	27.4	28.8
73°	23.3	24.4	26.2	27.0	28.2	28.5	28.4	26.8	25.6	26.2	27.5
73.5°	22.1	23.2	25.1	25.9	27.0	27.3	27.1	25.6	24.4	25.0	26.4
74°	21.0	22.0	24.0	24.9	25.9	26.3	26.1	24.5	23.3	23.9	25.3
74.5°	19.9	20.9	22.9	23.8	24.8	25.2	24.9	23.4	22.1	22.8	24.2
75°	18.8	19.8	21.7	22.8	23.8	24.1	23.9	22.1	21.0	21.6	23.1
75.5°	17.7	18.7	20.7	21.6	22.8	23.1	22.8	21.1	19.9	20.5	22.0
76°	16.6	17.7	19.6	20.7	21.6	22.0	21.6	19.9	18.8	19.4	21.0
76.5°	15.6	16.5	18.6	19.6	20.6	21.0	20.6	18.9	17.8	18.4	19.9
77°	14.6	15.5	17.5	18.7	19.6	20.0	19.6	17.8	16.6	17.2	18.9
77.5°	13.6	14.5	16.5	17.7	18.7	19.1	18.6	16.7	15.6	16.2	17.9
78°	12.5	13.5	15.6	16.7	17.7	18.1	17.5	15.7	14.6	15.3	16.8
78.5°	11.5	12.4	14.6	15.7	16.7	17.0	16.5	14.7	13.7	14.3	15.9
79°	10.6	11.4	13.7	14.8	15.7	16.1	15.6	13.7	12.7	13.3	15.0
79.5°	9.7	10.5	12.7	13.9	14.8	15.2	14.7	12.8	11.7	12.2	14.0
80°	8.8	9.6	11.7	13.0	13.9	14.3	13.7	11.7	10.8	11.3	13.1
80.5°	7.9	8.7	10.9	12.1	13.1	13.4	12.9	10.8	9.9	10.4	12.1
81°	6.9	7.8	10.0	11.2	12.1	12.4	11.9	9.9	9.0	9.6	11.3
81.5°	6.1	6.8	9.2	10.3	11.2	11.6	11.0	9.1	8.2	8.7	10.4
82°	5.2	6.0	8.4	9.5	10.4	10.7	10.2	8.3	7.2	7.8	9.6
82.5°	4.4	5.2	7.5	8.7	9.5	9.9	9.4	7.4	6.4	6.9	8.9
83°	3.6	4.5	6.8	7.9	8.8	9.1	8.7	6.6	5.5	6.0	8.2
83.5°	3.1	3.8	6.0	7.0	8.0	8.3	7.9	5.7	4.7	5.3	7.3
84°	2.6	3.4	5.4	6.3	7.1	7.4	7.0	5.0	3.9	4.6	6.6
84.5°	2.0	3.0	4.7	5.5	6.3	6.6	6.3	4.4	3.2	3.9	5.9
85°	1.5	2.4	4.0	4.7	5.5	5.8	5.5	3.8	2.4	3.4	5.2
85.5°	1.2	2.0	3.4	4.0	4.7	5.1	4.9	3.3	2.0	3.0	4.5
86°	0.9	1.6	2.8	3.3	4.0	4.4	4.2	2.9	1.7	2.6	3.9
86.5°	0.7	1.2	2.1	2.6	3.3	3.6	3.6	2.3	1.4	2.1	3.3
87°	0.4	0.8	1.4	1.8	2.6	2.9	2.9	1.9	1.1	1.7	2.7
87.5°	0.2	0.5	0.8	1.1	1.8	2.2	2.2	1.5	0.9	1.3	2.0
88°	0.1	0.2	0.3	0.5	1.2	1.5	1.6	1.1	0.6	1.0	1.4
88.5°	0.0	0.1	0.1	0.2	0.6	0.8	1.0	0.7	0.4	0.6	0.8



TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	743.5	743.5	743.5	743.5	743.5	743.5
0.5°	743.2	743.8	743.3	742.9	743.0	743.1
1°	743.3	743.7	743.0	742.5	742.5	742.6
1.5°	743.1	743.3	742.6	742.0	741.9	741.9
2°	742.9	742.9	742.1	741.3	741.1	741.1
2.5°	742.5	742.3	741.5	740.6	740.2	740.1
3°	742.0	741.6	740.6	739.7	739.1	738.9
3.5°	741.4	740.8	739.7	738.6	737.8	737.5
4°	740.6	739.9	738.5	737.4	736.5	736.1
4.5°	739.7	738.6	737.2	735.9	735.0	734.6
5°	738.7	737.2	735.7	734.4	733.2	732.6
5.5°	737.3	735.8	734.2	732.6	731.4	730.7
6°	735.9	734.3	732.3	730.8	729.5	728.7
6.5°	734.5	732.6	730.5	728.9	727.2	726.3
7°	732.8	730.7	728.5	726.6	724.9	724.0
7.5°	731.1	728.6	726.3	724.3	722.4	721.3
8°	729.1	726.5	724.0	721.7	719.8	718.7
8.5°	727.0	724.2	721.5	719.2	717.0	715.7
9°	724.8	721.6	718.9	716.2	713.9	712.6
9.5°	722.4	719.1	716.1	713.4	710.8	709.3
10°	719.9	716.2	713.1	710.3	707.5	705.9
10.5°	717.2	713.4	710.0	707.0	704.2	702.3
11°	714.3	710.3	706.7	703.6	700.5	698.6
11.5°	711.3	707.1	703.4	700.0	696.5	694.6
12°	708.1	703.7	699.8	696.0	692.6	690.5
12.5°	704.9	700.1	696.0	692.0	688.5	686.2
13°	701.4	696.4	692.2	688.1	684.3	681.8
13.5°	697.8	692.7	688.2	683.9	679.7	677.0
14°	694.1	688.8	684.1	679.5	675.0	672.5
14.5°	690.2	684.7	679.8	675.0	670.3	667.6
15°	686.1	680.4	675.3	670.2	665.4	662.6
15.5°	681.9	675.9	670.7	665.5	660.5	657.4
16°	677.6	671.5	666.0	660.6	655.5	652.1
16.5°	673.3	666.9	661.2	655.7	650.2	646.8
17°	668.7	662.0	656.3	650.7	645.0	641.5
17.5°	664.1	657.4	651.3	645.4	639.6	636.1
18°	659.4	652.5	646.4	640.3	634.3	630.4
18.5°	654.6	647.5	641.4	635.2	629.1	625.1
19°	649.6	643.0	636.5	630.3	624.2	620.0
19.5°	645.0	638.1	631.7	625.6	619.4	615.1
20°	640.5	633.4	627.2	620.8	614.6	610.3
20.5°	636.0	628.9	622.3	616.0	609.6	605.2
21°	631.4	624.1	617.7	611.1	604.6	600.1

TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	617.3	609.6	602.5	594.2	586.6	581.7
23°	612.1	604.6	597.1	588.0	579.8	574.2
23.5°	606.6	599.2	591.3	581.1	572.2	566.1
24°	600.6	593.9	585.1	574.0	564.0	557.1
24.5°	594.4	587.7	578.6	566.3	555.3	547.3
25°	587.8	581.4	571.5	558.6	546.3	536.7
25.5°	580.8	574.6	564.2	550.6	536.9	526.4
26°	573.6	567.6	556.4	542.7	527.1	516.0
26.5°	565.7	559.3	548.1	534.2	517.0	505.6
27°	558.1	550.9	539.4	525.4	507.1	495.3
27.5°	550.3	541.4	530.4	516.4	497.1	485.5
28°	542.3	531.4	521.0	507.0	487.4	475.8
28.5°	534.0	520.8	511.1	497.1	477.8	466.3
29°	525.4	510.1	500.8	486.8	468.3	456.3
29.5°	516.9	498.8	490.1	476.2	458.9	446.6
30°	507.6	487.5	479.0	465.5	449.5	436.6
30.5°	498.0	476.5	467.4	454.8	439.8	426.5
31°	488.0	465.6	455.2	444.0	429.7	416.0
31.5°	477.7	455.2	443.6	432.8	419.7	405.5
32°	467.2	445.0	432.1	421.8	409.6	394.5
32.5°	456.3	435.0	420.7	410.6	399.2	383.9
33°	445.1	425.1	409.9	399.6	388.0	373.5
33.5°	433.9	415.2	398.9	388.4	377.2	363.2
34°	423.0	405.2	388.4	377.4	365.9	353.2
34.5°	412.2	394.4	377.7	366.1	354.7	343.2
35°	401.6	383.7	367.0	354.9	343.4	333.4
35.5°	391.2	372.9	356.2	344.0	332.9	323.8
36°	380.8	362.0	345.2	333.3	322.2	314.3
36.5°	370.3	351.3	334.4	322.6	311.9	304.6
37°	360.0	340.3	323.6	311.6	301.7	294.8
37.5°	349.3	329.7	313.0	301.0	292.0	285.1
38°	338.7	319.5	302.5	290.4	281.8	275.3
38.5°	328.2	309.6	292.2	280.1	271.9	265.5
39°	317.8	299.8	282.5	269.6	261.8	256.1
39.5°	307.0	290.0	272.8	259.5	251.6	246.5
40°	296.5	280.2	263.4	249.6	241.6	237.2
40.5°	285.9	270.4	254.2	239.9	231.8	228.2
41°	276.1	260.4	245.1	230.4	222.1	219.6
41.5°	265.7	250.8	236.2	221.5	212.8	210.8
42°	255.8	241.0	227.2	212.6	204.0	202.1
42.5°	245.8	231.5	219.0	204.5	195.7	193.8
43°	236.4	222.1	210.3	196.3	187.5	185.6
43.5°	226.5	213.2	201.9	188.3	179.7	177.4



TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	199.3	187.8	177.7	166.5	158.1	154.7
45.5°	190.3	179.9	170.3	159.9	151.7	148.1
46°	181.9	172.2	163.1	153.6	145.5	142.0
46.5°	173.5	164.6	156.1	147.5	139.7	136.2
47°	165.6	157.3	149.4	141.5	134.2	130.9
47.5°	158.0	150.2	143.1	136.0	129.1	126.1
48°	150.7	143.4	136.9	130.9	124.4	121.8
48.5°	144.1	136.8	131.2	126.0	119.9	117.7
49°	137.3	130.7	125.9	121.3	115.8	114.1
49.5°	131.3	124.9	120.8	116.8	112.0	110.5
50°	125.6	119.4	115.9	112.5	108.5	107.2
50.5°	120.2	114.2	111.3	108.6	105.1	104.2
51°	115.1	109.6	107.1	104.8	101.8	101.2
51.5°	110.5	105.3	103.1	101.3	98.8	98.2
52°	106.1	101.3	99.6	97.8	95.9	95.5
52.5°	102.0	97.7	96.1	94.7	93.0	92.7
53°	98.2	94.4	92.8	91.6	90.4	90.1
53.5°	94.7	91.3	89.8	88.9	87.8	87.6
54°	91.4	88.5	87.1	86.3	85.6	85.4
54.5°	88.6	86.0	84.9	84.2	83.6	83.5
55°	86.4	83.8	82.8	82.2	81.6	81.5
55.5°	84.2	81.8	80.8	80.2	79.6	79.6
56°	82.0	79.8	78.8	78.3	77.6	77.6
56.5°	79.9	77.7	76.8	76.2	75.6	75.6
57°	77.6	75.6	74.8	74.2	73.7	73.7
57.5°	75.6	73.5	72.6	72.1	71.7	71.7
58°	73.6	71.5	70.7	70.2	69.8	69.8
58.5°	71.5	69.5	68.7	68.3	67.8	67.8
59°	69.4	67.5	66.7	66.3	66.0	66.0
59.5°	67.4	65.5	64.8	64.5	64.2	64.1
60°	65.5	63.7	62.9	62.6	62.3	62.1
60.5°	63.6	61.7	61.1	60.9	60.6	60.3
61°	61.7	60.0	59.4	59.1	58.9	58.5
61.5°	59.9	58.3	57.6	57.3	57.0	56.7
62°	58.2	56.5	56.0	55.7	55.4	54.9
62.5°	56.4	54.8	54.2	54.1	53.7	53.2
63°	54.7	53.2	52.6	52.4	52.0	51.4
63.5°	53.2	51.5	51.0	50.9	50.4	49.8
64°	51.5	50.0	49.5	49.4	48.8	48.2
64.5°	49.9	48.5	48.0	47.8	47.2	46.5
65°	48.4	46.9	46.5	46.4	45.7	44.9
65.5°	46.8	45.5	45.1	44.9	44.2	43.4
66°	45.4	44.1	43.7	43.6	42.6	41.8



TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	41.2	39.9	39.6	39.4	38.3	37.4
68°	39.8	38.6	38.3	38.2	36.7	36.1
68.5°	38.6	37.3	36.8	36.7	35.5	34.8
69°	37.2	36.1	35.7	35.5	34.3	33.5
69.5°	35.9	34.9	34.5	34.3	33.0	32.1
70°	34.7	33.7	33.4	33.2	31.7	30.8
70.5°	33.5	32.5	32.1	31.9	30.4	29.5
71°	32.3	31.3	30.9	30.7	29.2	28.3
71.5°	31.1	30.1	29.8	29.5	28.0	27.0
72°	30.0	29.0	28.7	28.4	26.7	25.7
72.5°	28.8	27.9	27.5	27.1	25.5	24.5
73°	27.6	26.7	26.4	26.0	24.4	23.3
73.5°	26.5	25.6	25.3	24.9	23.2	22.1
74°	25.5	24.6	24.3	23.8	22.0	21.0
74.5°	24.4	23.5	23.2	22.8	20.9	19.9
75°	23.4	22.4	22.1	21.6	19.8	18.8
75.5°	22.3	21.4	21.1	20.6	18.8	17.7
76°	21.3	20.4	20.1	19.5	17.7	16.6
76.5°	20.3	19.4	19.1	18.5	16.5	15.6
77°	19.3	18.5	18.2	17.4	15.5	14.6
77.5°	18.4	17.4	17.1	16.5	14.5	13.6
78°	17.3	16.5	16.2	15.5	13.5	12.5
78.5°	16.4	15.6	15.3	14.6	12.5	11.5
79°	15.5	14.7	14.4	13.6	11.5	10.6
79.5°	14.6	13.8	13.5	12.7	10.6	9.7
80°	13.7	12.9	12.5	11.8	9.7	8.8
80.5°	12.8	12.0	11.7	10.9	8.8	7.9
81°	11.9	11.1	10.8	10.0	7.9	6.9
81.5°	11.0	10.3	10.0	9.2	7.0	6.1
82°	10.2	9.5	9.2	8.4	6.2	5.2
82.5°	9.4	8.7	8.4	7.7	5.4	4.4
83°	8.7	7.9	7.5	6.8	4.7	3.6
83.5°	7.9	7.0	6.7	6.1	4.1	3.1
84°	7.0	6.2	5.9	5.4	3.6	2.6
84.5°	6.2	5.5	5.2	4.7	3.2	2.0
85°	5.5	4.7	4.5	4.0	2.7	1.5
85.5°	4.7	4.0	3.7	3.4	2.1	1.2
86°	4.0	3.4	3.1	2.7	1.7	0.9
86.5°	3.3	2.7	2.3	2.0	1.3	0.7
87°	2.7	1.9	1.6	1.3	0.9	0.4
87.5°	1.9	1.2	0.9	0.7	0.5	0.2
88°	1.2	0.6	0.4	0.3	0.2	0.1
88.5°	0.6	0.2	0.1	0.1	0.1	0.0



TEST NUMBER: P775686

CATALOG NUMBER: HCDJBL510CSD-HCD4TRMW-1000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.1	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



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Scaled Data Report





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

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21.5°	594.8	592.0	592.3	594.7	603.6	610.1	616.6	623.2	627.7	630.1	630.0
22°	588.7	585.6	585.8	588.6	598.6	605.3	612.0	618.4	623.1	625.6	625.4



44°	169.5	170.8	172.4	174.5	183.7	189.5	197.5	210.1	217.8	221.8	220.3
44.5°	162.0	164.3	165.9	167.9	175.9	181.6	189.5	201.9	209.3	212.3	211.2



66.5°	40.4	41.3	42.6	43.0	44.5	45.0	45.1	44.4	43.2	43.6	44.4
67°	38.9	39.9	41.2	41.6	43.2	43.6	43.8	43.0	41.7	42.1	43.0



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



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21.5°	626.7	619.2	612.8	605.9	599.1	594.8
22°	622.2	614.6	607.8	600.2	593.2	588.7



44°	217.3	204.4	193.7	180.8	172.1	169.5
44.5°	208.0	196.0	185.8	173.4	165.0	162.0



66.5°	44.0	42.6	42.2	42.1	41.1	40.4
67°	42.5	41.2	40.9	40.8	39.7	38.9

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

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Scaled Data Report



(END OF REPORT)