

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: P775672

Luminaire Tested: HCDJBL510CSD-HCD4TRH-1000lm-3500K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775672  
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-HCD4TRH-1000lm-3500K  
Description: 4 INCH ROUND MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT  
Ballast/Driver: -

**Summary**

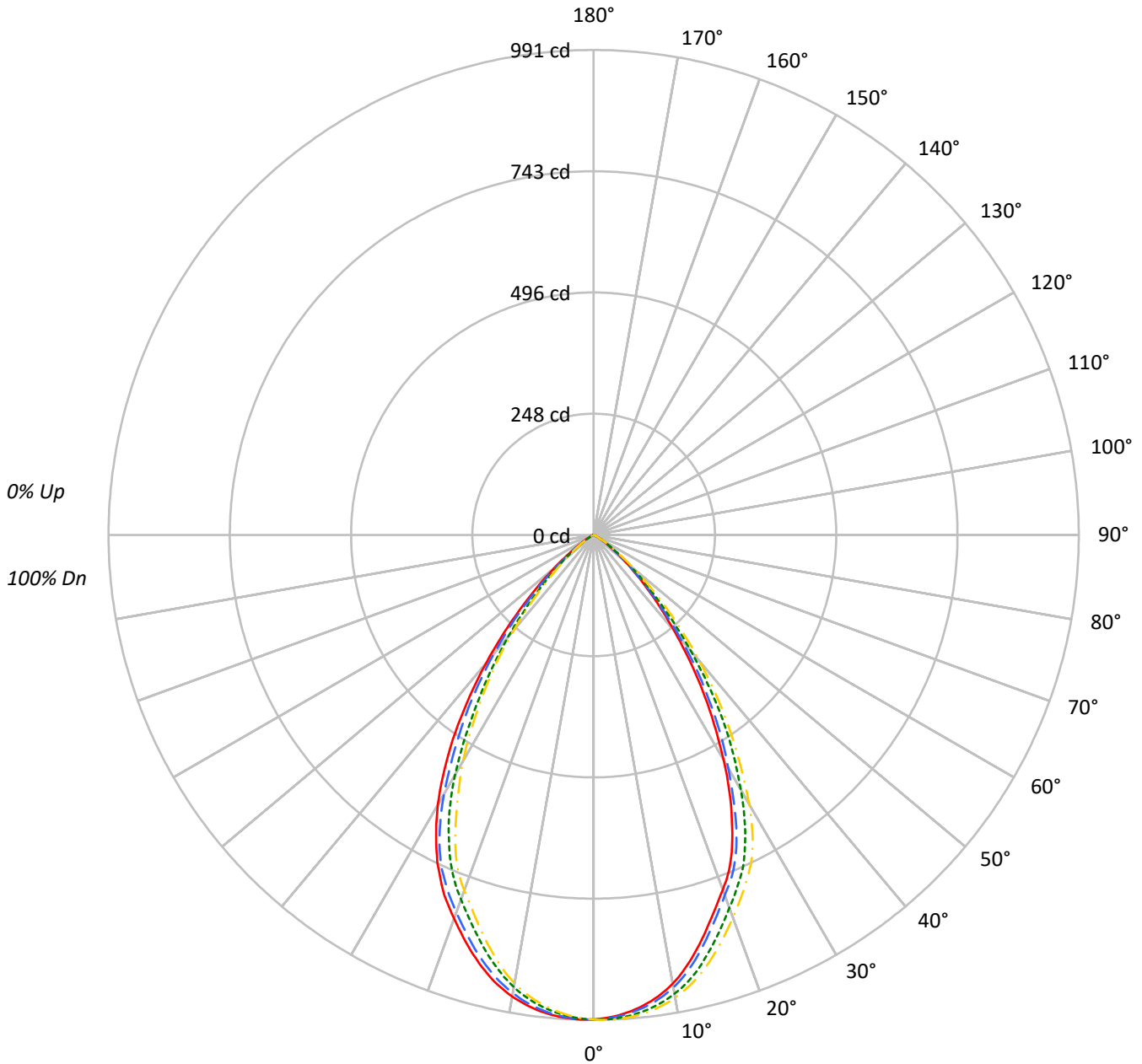
Lumens per Lamp: N/A  
Luminaire Lumens: 1116.0 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 0.98 / 0.98 / 0.98  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	92								
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85								
3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78								
4	95	87	81	76	93	85	80	75	83	78	75	81	77	74	79	76	73	71								
5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65								
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60								
7	80	70	63	58	78	69	63	58	68	62	58	66	61	58	65	61	57	56								
8	75	65	58	54	74	64	58	54	63	58	54	62	57	53	61	57	53	52								
9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	58	53	49	48								
10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	50	46	45								

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

	0°	90°	180°	270°
0°	124642	124642	124642	124642
5°	122957	124145	124385	123387
10°	118948	121670	122398	119919
15°	111384	116049	117951	113508
20°	103324	108601	111695	106177
25°	93092	101090	104256	97063
30°	77222	87467	92452	82207
35°	59410	70380	75711	62729
40°	42172	50468	56054	44521
45°	27337	32339	36681	27800
50°	15800	18815	20479	15154
55°	7767	9479	9588	6977
60°	3272	3700	3801	2718
65°	1697	1757	1816	1429
70°	993	1030	1104	846
75°	583	632	632	486
80°	290	435	362	290
85°	144	289	144	144

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°

Vertical Angle: 45°

Luminance: 37518 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.4	8.3
10°-20°	246.7	22.1
20°-30°	323.3	29.0
30°-40°	270.8	24.3
40°-50°	137.3	12.3
50°-60°	37.5	3.4
60°-70°	6.3	0.6
70°-80°	1.5	0.1
80°-90°	0.2	0.0
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	662.4	59.4
0°-40°	933.2	83.6
0°-60°	1108.0	99.3
0°-90°	1116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1116.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	990	990	990	990	990	
5°	973	983	985	977	973	92
15°	855	891	905	871	855	239
25°	670	728	751	699	670	304
35°	387	458	493	408	387	241
45°	154	182	206	156	154	121
55°	35	43	44	32	35	34
65°	6	6	6	5	6	6
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	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°	990.4	990.4	990.4	990.4	990.4	990.4	990.4	990.4	990.4	990.4	990.4
0.5°	989.2	989.3	989.8	990.5	990.8	991.1	991.2	991.1	990.3	990.1	990.2
1°	988.4	988.5	989.2	990.1	990.8	991.2	991.4	991.3	990.6	990.2	990.2
1.5°	987.3	987.7	988.5	989.5	990.6	991.2	991.4	991.4	990.5	990.1	989.6
2°	986.0	986.6	987.5	988.8	990.1	990.9	991.4	991.3	990.3	989.6	989.3
2.5°	984.5	985.2	986.4	987.8	989.4	990.6	991.1	990.9	989.9	989.0	988.6
3°	982.7	983.6	984.9	986.6	988.4	989.8	990.5	990.5	989.1	988.3	987.7
3.5°	980.6	981.8	983.3	985.0	987.4	988.9	989.6	989.5	988.4	987.4	986.5
4°	978.5	979.7	981.3	983.2	986.1	987.8	988.8	988.6	987.4	986.2	985.3
4.5°	976.1	977.3	979.2	981.4	984.6	986.5	987.8	987.6	985.9	984.8	983.6
5°	973.3	974.9	976.7	979.0	982.7	985.1	986.3	986.1	984.6	983.2	982.0
5.5°	970.4	971.9	974.1	976.6	980.7	983.3	984.8	984.5	982.8	981.4	979.9
6°	967.0	968.8	971.4	974.0	978.4	981.4	983.0	982.8	980.9	979.4	977.8
6.5°	963.6	965.8	968.3	971.3	976.0	979.3	981.2	980.7	978.9	977.0	975.2
7°	959.8	962.1	965.0	968.3	973.3	976.9	978.9	978.7	976.5	974.6	972.5
7.5°	955.8	958.0	961.4	965.0	970.4	974.3	976.3	976.1	974.0	971.8	969.5
8°	951.4	954.0	957.5	961.5	967.3	971.4	973.5	973.1	971.3	968.9	966.3
8.5°	946.7	949.4	953.3	957.5	963.8	968.2	970.6	970.4	968.2	965.7	962.8
9°	941.7	944.6	948.6	953.4	960.3	964.9	967.3	967.1	965.0	962.3	959.1
9.5°	936.5	939.5	943.8	948.9	956.3	961.1	963.8	963.6	961.7	958.7	955.0
10°	930.8	934.1	938.8	944.2	952.1	957.2	959.8	959.9	957.8	954.8	950.8
10.5°	924.6	928.1	933.5	939.0	947.5	952.8	955.8	956.1	953.9	950.5	946.4
11°	918.4	922.0	927.4	933.6	942.6	948.2	951.5	951.6	949.5	946.1	941.6
11.5°	911.3	915.4	921.0	927.7	937.5	943.4	946.8	947.2	945.1	941.4	936.4
12°	903.9	908.2	914.2	921.5	932.0	938.0	941.8	942.3	940.3	936.4	931.2
12.5°	896.4	900.7	907.1	914.6	925.8	932.4	936.8	937.4	935.2	931.1	925.6
13°	888.6	893.2	899.6	907.9	919.5	926.7	931.0	931.8	929.8	925.4	919.7
13.5°	880.4	885.0	892.0	900.2	912.9	920.2	925.3	926.2	924.1	919.6	913.7
14°	871.9	876.9	883.8	892.5	905.8	913.8	919.0	920.0	917.9	913.6	907.1
14.5°	863.5	868.2	875.4	884.5	898.4	907.0	912.4	914.0	911.9	907.3	900.6
15°	854.9	859.9	867.1	876.6	890.7	899.9	905.8	907.2	905.3	900.5	893.9
15.5°	846.2	851.3	858.6	868.3	883.1	892.5	899.1	900.7	898.7	894.0	887.1
16°	837.7	842.7	850.3	859.9	875.2	885.3	892.1	893.9	892.0	887.1	880.0
16.5°	828.9	834.1	841.7	851.8	867.5	877.8	884.7	887.3	885.2	880.2	872.8
17°	820.5	825.4	833.2	843.2	859.2	870.3	877.3	880.0	878.0	873.2	865.3
17.5°	811.8	816.9	824.5	834.9	851.0	862.3	870.0	872.5	870.9	865.7	858.0
18°	803.3	808.5	816.2	826.6	843.0	854.6	862.3	865.1	863.5	858.5	850.3
18.5°	794.7	799.9	807.6	818.1	834.8	846.7	854.7	858.0	856.0	851.1	842.6
19°	786.8	791.8	799.4	810.0	826.7	838.7	847.1	850.0	848.6	843.6	835.1
19.5°	778.9	783.8	791.5	801.9	819.0	830.9	839.4	842.5	841.3	836.3	827.9
20°	771.5	776.2	783.6	794.1	810.9	823.0	831.5	835.2	834.0	829.0	820.4
20.5°	763.6	768.5	776.0	786.2	803.2	815.1	824.1	827.8	826.6	821.8	813.0
21°	756.0	760.7	768.4	778.5	795.6	807.6	816.4	820.0	819.3	814.4	805.6



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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°	728.4	735.1	744.2	755.2	772.0	784.7	793.9	798.0	796.7	791.3	782.1
23°	718.3	725.0	734.7	746.7	764.2	776.3	786.3	790.2	788.5	782.1	773.8
23.5°	707.2	713.9	724.7	737.1	756.2	768.0	778.2	781.7	779.1	773.0	765.5
24°	695.2	702.5	713.7	726.8	748.2	759.6	770.1	773.2	769.6	763.7	757.1
24.5°	682.7	690.1	702.2	716.0	738.3	751.3	762.0	764.8	760.2	754.5	748.8
25°	670.4	677.6	690.3	704.0	728.0	743.0	753.9	756.3	750.8	745.3	738.6
25.5°	657.0	664.6	677.6	691.6	717.1	733.0	745.7	747.8	741.4	735.0	728.1
26°	644.0	652.2	664.6	678.0	705.5	722.4	736.1	737.3	730.6	723.5	717.1
26.5°	630.5	639.3	650.7	663.9	693.8	711.4	725.8	727.1	719.7	712.2	705.5
27°	617.2	626.1	636.5	649.6	681.7	699.8	715.0	715.3	708.3	700.9	693.5
27.5°	603.3	612.6	621.4	635.7	669.4	688.4	703.7	704.0	696.8	689.5	680.8
28°	589.6	599.1	606.8	622.0	656.6	676.5	691.3	691.6	685.2	677.8	667.9
28.5°	575.2	585.3	592.2	608.4	642.9	664.4	678.2	679.3	673.8	666.0	654.5
29°	560.9	571.2	577.6	595.1	629.3	651.7	664.9	666.2	661.6	653.7	640.7
29.5°	546.3	556.5	563.7	582.3	615.3	638.8	650.5	653.0	649.1	641.1	626.4
30°	531.4	541.4	550.1	569.1	601.9	625.3	635.4	638.8	636.2	627.9	611.2
30.5°	516.1	526.3	536.4	556.3	586.5	611.0	619.7	624.5	623.1	614.5	596.0
31°	501.1	511.3	522.8	542.4	572.1	596.3	604.6	609.6	609.3	601.0	580.7
31.5°	486.3	496.1	509.2	528.8	557.8	580.7	588.5	594.5	595.4	586.6	565.1
32°	471.6	481.1	495.4	514.2	544.5	565.5	573.0	579.1	581.1	572.1	550.0
32.5°	457.6	466.2	481.5	499.8	529.7	550.3	557.6	564.0	567.3	557.6	534.8
33°	443.6	452.0	467.6	484.8	515.5	534.4	542.7	548.9	552.5	543.4	519.8
33.5°	429.3	437.8	453.3	469.5	501.6	518.5	527.8	533.8	538.1	528.4	505.2
34°	415.3	423.4	438.6	454.1	487.9	501.9	513.1	518.9	523.0	513.0	490.7
34.5°	401.1	408.8	423.8	439.5	472.8	485.4	498.5	504.3	508.2	498.1	476.4
35°	386.7	394.0	409.4	425.1	458.1	468.9	483.5	489.8	492.8	482.8	461.9
35.5°	373.5	380.1	395.2	411.2	443.0	453.1	468.8	475.5	477.8	466.9	447.6
36°	360.0	366.5	381.2	397.6	428.7	437.3	454.0	460.9	462.0	451.4	433.3
36.5°	346.3	353.1	371.6	383.9	412.3	422.0	439.2	446.7	446.4	435.7	418.7
37°	332.7	339.5	357.3	368.3	397.1	406.7	423.9	431.9	430.7	420.3	403.8
37.5°	319.2	326.0	343.1	355.2	381.4	392.1	408.6	417.3	415.8	405.0	389.0
38°	305.6	312.5	328.9	342.1	366.4	377.9	393.5	402.5	400.4	389.8	374.0
38.5°	292.9	300.1	314.6	329.0	350.7	363.4	378.7	387.7	385.4	374.9	359.4
39°	280.6	287.9	301.5	316.0	336.1	349.4	363.9	372.9	370.8	360.4	345.1
39.5°	268.5	275.3	288.3	302.0	321.0	335.1	349.5	358.4	356.2	345.8	331.1
40°	256.7	262.9	275.2	288.0	307.2	321.6	335.1	343.8	341.2	331.5	316.9
40.5°	244.9	251.3	262.6	274.5	292.5	307.5	321.2	329.5	326.8	317.2	303.8
41°	233.6	239.6	249.8	261.2	279.2	294.1	307.8	316.0	312.4	302.5	290.1
41.5°	222.6	228.8	237.5	248.5	265.7	280.6	294.2	302.2	298.2	288.5	276.9
42°	212.0	217.9	225.6	236.1	252.9	267.8	281.0	288.7	283.9	274.8	263.6
42.5°	201.3	207.4	214.1	223.9	240.2	254.7	268.1	275.0	270.3	261.3	250.7
43°	191.2	197.0	202.6	211.9	227.9	242.2	255.2	262.0	256.8	248.5	237.8
43.5°	181.3	187.2	191.8	199.9	215.5	229.8	242.7	249.2	243.5	235.2	225.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	153.6	159.0	161.5	165.9	181.7	195.2	206.9	210.8	206.1	198.8	188.5
45.5°	145.1	150.3	152.0	155.5	171.4	184.0	195.6	198.4	194.4	187.4	177.0
46°	136.7	141.9	142.9	145.2	161.2	173.6	185.0	186.8	183.1	176.0	166.0
46.5°	128.7	133.8	134.0	135.5	151.6	163.4	174.0	174.9	172.0	164.9	155.3
47°	120.7	125.7	125.7	126.6	142.4	153.5	163.4	163.9	161.1	154.7	144.9
47.5°	113.6	118.1	117.7	118.1	133.5	143.9	153.1	153.2	150.7	144.8	135.1
48°	106.4	111.0	110.2	110.3	125.0	134.9	143.3	143.0	140.6	134.4	125.8
48.5°	99.6	104.0	103.1	103.2	117.0	126.3	133.6	133.1	131.0	125.1	116.9
49°	93.0	97.3	96.2	96.6	109.4	117.9	124.2	123.7	121.8	116.3	108.3
49.5°	86.7	90.9	89.8	90.3	102.2	110.1	115.4	115.0	112.7	107.7	101.0
50°	80.7	84.7	83.9	84.6	96.1	102.6	106.9	106.7	104.6	100.5	93.9
50.5°	75.0	78.8	78.3	79.1	89.8	96.1	99.8	99.6	97.5	93.4	86.7
51°	69.5	73.1	73.1	74.0	83.7	89.5	92.6	92.4	90.4	86.1	79.6
51.5°	64.2	67.7	67.9	69.0	77.5	83.1	85.5	85.4	83.2	79.0	72.4
52°	59.4	62.6	63.0	64.4	71.4	76.6	78.3	78.2	76.1	71.8	66.3
52.5°	54.6	57.7	58.3	59.7	66.1	70.1	71.2	71.2	69.0	65.4	60.6
53°	50.2	53.0	53.8	55.2	60.9	64.6	65.4	65.3	63.2	59.8	55.4
53.5°	45.9	48.5	49.5	51.0	56.3	59.3	60.0	59.6	57.8	54.6	50.5
54°	42.0	44.4	45.5	46.8	51.7	54.1	54.9	54.4	52.7	49.8	46.0
54.5°	38.5	40.6	41.7	43.0	47.3	49.3	50.1	49.5	47.9	45.2	41.8
55°	35.4	37.1	38.1	39.4	43.2	45.0	45.5	45.2	43.7	41.1	38.2
55.5°	32.4	34.1	35.0	36.3	39.4	40.8	41.3	41.1	39.8	37.6	34.8
56°	29.3	31.1	31.9	33.1	35.9	37.1	37.6	37.4	36.3	34.3	31.3
56.5°	26.2	28.1	28.8	29.8	32.5	33.7	34.2	33.9	32.9	30.7	28.0
57°	23.1	25.0	25.7	26.6	29.1	30.3	30.8	30.4	29.5	27.6	25.0
57.5°	20.8	22.0	22.6	23.4	25.9	26.9	27.4	27.3	26.3	24.6	22.3
58°	18.9	19.8	20.3	20.9	23.1	23.9	24.4	24.2	23.5	22.0	19.9
58.5°	17.1	17.9	18.2	18.7	20.6	21.3	21.7	21.7	21.0	19.7	17.8
59°	15.5	16.3	16.5	16.8	18.3	18.9	19.3	19.3	18.8	17.7	16.1
59.5°	14.2	14.8	14.8	15.1	16.4	16.9	17.2	17.2	16.8	15.9	14.4
60°	13.0	13.5	13.6	13.7	14.7	15.1	15.3	15.4	15.1	14.3	13.1
60.5°	11.8	12.3	12.3	12.3	13.3	13.6	13.8	14.0	13.7	13.1	11.9
61°	10.8	11.3	11.3	11.2	12.0	12.3	12.4	12.6	12.3	11.8	10.8
61.5°	9.9	10.4	10.4	10.3	10.9	11.2	11.3	11.5	11.2	10.8	9.9
62°	9.1	9.5	9.4	9.4	9.9	10.2	10.3	10.5	10.3	9.8	9.2
62.5°	8.5	8.8	8.7	8.6	9.2	9.4	9.4	9.5	9.3	9.1	8.6
63°	7.8	8.2	8.1	7.9	8.5	8.7	8.8	8.9	8.7	8.5	7.9
63.5°	7.2	7.6	7.4	7.3	7.8	8.0	8.1	8.2	8.1	7.8	7.3
64°	6.6	6.9	6.8	6.7	7.2	7.3	7.5	7.6	7.5	7.2	6.5
64.5°	6.1	6.4	6.3	6.2	6.4	6.5	6.8	6.9	6.8	6.4	6.0
65°	5.7	6.0	5.9	5.7	5.9	6.0	6.1	6.2	6.1	6.0	5.6
65.5°	5.3	5.5	5.5	5.3	5.5	5.6	5.7	5.8	5.7	5.6	5.2
66°	4.9	5.2	5.1	5.0	5.1	5.2	5.3	5.4	5.3	5.2	4.9





TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	3.9	4.1	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.1	3.8
68°	3.6	3.8	3.8	3.7	3.7	3.8	3.9	3.9	3.9	3.8	3.6
68.5°	3.4	3.6	3.6	3.5	3.5	3.5	3.6	3.7	3.6	3.6	3.3
69°	3.2	3.3	3.3	3.2	3.3	3.3	3.4	3.4	3.4	3.3	3.1
69.5°	2.9	3.1	3.1	3.0	3.1	3.1	3.2	3.2	3.2	3.1	2.9
70°	2.7	2.9	2.9	2.8	2.8	2.9	3.0	3.0	3.0	2.9	2.7
70.5°	2.5	2.7	2.7	2.6	2.7	2.7	2.8	2.8	2.8	2.7	2.5
71°	2.4	2.5	2.5	2.4	2.5	2.5	2.6	2.6	2.6	2.5	2.4
71.5°	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.4	2.4	2.3	2.2
72°	2.0	2.2	2.2	2.1	2.2	2.2	2.2	2.3	2.2	2.2	2.1
72.5°	1.9	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.0	1.9
73°	1.7	1.9	1.9	1.8	1.9	1.9	2.0	2.0	1.9	1.9	1.8
73.5°	1.6	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.7	1.7
74°	1.5	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.6
74.5°	1.3	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.3
75°	1.2	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.3	1.3	1.2
75.5°	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.2	1.2	1.1
76°	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.0
76.5°	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.0	1.0	1.0
77°	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.9
77.5°	0.7	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8
78°	0.7	0.7	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.8	0.7
78.5°	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7
79°	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6
79.5°	0.5	0.5	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6
80°	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.5	0.5
80.5°	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
81°	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
81.5°	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4
82°	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
82.5°	0.2	0.2	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3
83°	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
83.5°	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
84°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
84.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2
85°	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
85.5°	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
86°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
86.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
87°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**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: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	990.4	990.4	990.4	990.4	990.4	990.4
0.5°	990.2	990.1	990.2	990.0	989.8	989.2
1°	990.0	989.4	989.2	988.9	988.7	988.4
1.5°	989.4	988.6	988.1	987.8	987.7	987.3
2°	988.7	987.6	987.0	986.5	986.3	986.0
2.5°	987.7	986.3	985.3	984.7	984.6	984.5
3°	986.6	984.8	983.6	982.8	982.6	982.7
3.5°	985.4	983.1	981.6	980.7	980.5	980.6
4°	983.8	981.2	979.4	978.2	978.1	978.5
4.5°	982.1	979.1	977.0	975.9	975.6	976.1
5°	980.1	976.7	974.4	973.1	972.7	973.3
5.5°	977.8	974.1	971.3	970.1	969.8	970.4
6°	975.5	971.3	968.3	966.6	966.4	967.0
6.5°	972.8	968.1	965.0	963.3	962.9	963.6
7°	969.8	964.8	961.3	959.5	958.9	959.8
7.5°	966.4	961.1	957.4	955.5	954.8	955.8
8°	963.0	957.2	953.4	951.1	950.5	951.4
8.5°	959.2	952.9	948.8	946.5	945.8	946.7
9°	955.1	948.3	944.1	941.5	940.6	941.7
9.5°	950.7	943.5	939.1	936.0	935.3	936.5
10°	946.1	938.4	933.5	930.5	929.4	930.8
10.5°	941.1	932.8	927.7	924.5	923.5	924.6
11°	935.9	927.1	921.6	917.8	916.6	918.4
11.5°	930.4	921.0	914.8	910.8	909.9	911.3
12°	924.8	914.5	907.9	903.5	902.4	903.9
12.5°	918.6	907.8	900.6	896.0	894.5	896.4
13°	912.3	900.8	893.2	888.1	886.5	888.6
13.5°	905.7	893.8	885.7	880.0	878.6	880.4
14°	899.0	886.4	877.6	871.9	870.2	871.9
14.5°	891.7	878.9	869.9	863.8	861.8	863.5
15°	884.9	871.2	861.4	855.2	853.0	854.9
15.5°	877.4	863.3	853.5	846.8	844.4	846.2
16°	870.1	855.6	845.1	838.1	835.8	837.7
16.5°	862.4	847.8	837.4	829.7	827.4	828.9
17°	854.9	839.5	829.0	820.9	818.8	820.5
17.5°	847.2	831.8	820.8	812.8	810.1	811.8
18°	839.3	823.7	812.4	804.3	801.7	803.3
18.5°	831.5	815.8	804.7	796.1	793.5	794.7
19°	823.9	807.9	796.8	788.5	785.6	786.8
19.5°	816.4	800.5	789.1	780.8	777.7	778.9
20°	809.0	792.8	781.4	773.1	770.0	771.5
20.5°	801.3	785.0	773.6	765.4	762.1	763.6
21°	794.1	777.1	765.2	756.9	754.2	756.0

TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	770.5	751.4	737.4	729.2	726.5	728.4
23°	762.5	741.6	727.3	718.3	716.1	718.3
23.5°	754.4	731.8	716.5	707.1	705.0	707.2
24°	746.4	721.3	705.2	695.1	692.9	695.2
24.5°	736.8	710.4	693.7	682.1	680.1	682.7
25°	726.8	699.0	682.0	668.6	667.3	670.4
25.5°	716.0	687.4	669.9	654.6	653.2	657.0
26°	704.9	675.7	657.4	640.5	639.4	644.0
26.5°	692.4	663.5	644.4	626.8	624.8	630.5
27°	679.7	651.2	631.1	613.4	610.1	617.2
27.5°	665.8	638.0	617.4	599.9	595.4	603.3
28°	651.6	624.6	603.3	586.8	581.2	589.6
28.5°	636.5	610.7	588.9	574.0	566.8	575.2
29°	620.8	596.1	574.5	561.0	553.5	560.9
29.5°	605.0	581.1	559.9	547.8	539.3	546.3
30°	589.4	565.7	545.5	534.4	525.8	531.4
30.5°	573.4	550.3	530.9	520.2	512.4	516.1
31°	558.2	534.5	517.2	505.9	498.8	501.1
31.5°	543.4	518.5	502.9	491.0	484.9	486.3
32°	528.8	502.6	488.8	475.7	471.0	471.6
32.5°	514.5	486.5	474.6	460.5	456.8	457.6
33°	499.6	470.4	460.0	445.8	442.5	443.6
33.5°	485.1	454.1	444.9	431.2	428.2	429.3
34°	470.5	438.8	430.2	416.7	413.8	415.3
34.5°	455.8	423.4	414.9	402.2	399.0	401.1
35°	440.7	408.3	399.8	388.6	385.0	386.7
35.5°	425.7	394.1	384.4	375.3	371.1	373.5
36°	410.6	379.9	367.5	361.7	358.0	360.0
36.5°	395.5	366.0	353.2	348.1	345.0	346.3
37°	380.5	352.1	338.8	334.4	331.9	332.7
37.5°	365.8	338.3	324.5	320.8	319.0	319.2
38°	351.5	324.5	310.1	307.2	305.9	305.6
38.5°	337.5	310.7	295.9	293.5	293.2	292.9
39°	323.6	297.2	282.7	280.1	280.5	280.6
39.5°	310.2	283.8	269.3	266.7	267.4	268.5
40°	296.7	271.0	256.2	253.6	254.6	256.7
40.5°	283.5	258.1	243.5	240.7	242.3	244.9
41°	270.6	245.4	231.2	228.1	230.3	233.6
41.5°	257.8	233.0	219.0	216.0	218.4	222.6
42°	245.2	221.2	207.4	204.1	206.7	212.0
42.5°	233.1	209.3	196.2	192.5	195.8	201.3
43°	221.1	198.0	185.3	181.2	184.9	191.2
43.5°	209.4	186.9	174.7	170.1	174.4	181.3

TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	176.3	156.2	145.5	139.9	145.0	153.6
45.5°	165.9	146.5	136.7	130.8	135.9	145.1
46°	155.6	137.4	128.2	122.1	127.2	136.7
46.5°	145.6	128.7	119.9	113.9	119.0	128.7
47°	136.0	120.3	112.2	106.5	111.3	120.7
47.5°	126.4	112.0	104.9	99.7	103.9	113.6
48°	117.4	104.5	97.9	93.1	97.2	106.4
48.5°	109.1	97.3	91.3	86.9	90.8	99.6
49°	100.9	90.4	84.9	81.1	84.7	93.0
49.5°	93.9	83.8	78.9	76.0	79.3	86.7
50°	86.8	77.4	73.2	70.9	73.8	80.7
50.5°	79.8	71.4	67.7	65.9	68.8	75.0
51°	72.7	65.8	62.5	61.2	63.9	69.5
51.5°	66.8	60.4	57.6	56.9	59.3	64.2
52°	61.3	55.4	53.0	52.6	54.8	59.4
52.5°	56.0	50.5	48.6	48.5	50.7	54.6
53°	51.2	45.9	44.5	44.5	46.6	50.2
53.5°	46.6	41.8	40.6	40.8	42.8	45.9
54°	42.4	38.0	37.0	37.4	39.2	42.0
54.5°	38.7	34.9	34.0	34.4	36.3	38.5
55°	35.2	31.8	31.0	31.4	33.2	35.4
55.5°	31.8	28.6	27.9	28.4	30.1	32.4
56°	28.4	25.5	24.9	25.4	26.9	29.3
56.5°	25.4	22.4	21.9	22.4	23.8	26.2
57°	22.6	19.9	19.5	20.0	21.3	23.1
57.5°	20.1	17.8	17.5	18.0	19.3	20.8
58°	17.9	16.1	15.8	16.3	17.5	18.9
58.5°	16.2	14.4	14.3	14.7	15.9	17.1
59°	14.5	13.1	13.0	13.5	14.5	15.5
59.5°	13.2	11.8	11.7	12.2	13.2	14.2
60°	11.9	10.8	10.7	11.2	12.1	13.0
60.5°	10.9	9.8	9.7	10.3	11.1	11.8
61°	9.9	9.0	8.9	9.4	10.2	10.8
61.5°	9.2	8.3	8.2	8.7	9.4	9.9
62°	8.5	7.6	7.6	8.0	8.7	9.1
62.5°	7.9	6.9	6.9	7.4	8.0	8.5
63°	7.2	6.4	6.4	6.8	7.4	7.8
63.5°	6.5	5.9	6.0	6.3	6.8	7.2
64°	6.0	5.5	5.5	5.8	6.3	6.6
64.5°	5.6	5.1	5.1	5.4	5.8	6.1
65°	5.2	4.8	4.8	5.0	5.4	5.7
65.5°	4.8	4.4	4.5	4.7	5.1	5.3
66°	4.5	4.0	4.1	4.4	4.7	4.9



TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.5	3.3	3.3	3.5	3.7	3.9
68°	3.3	3.1	3.1	3.3	3.5	3.6
68.5°	3.1	2.9	2.9	3.0	3.2	3.4
69°	2.9	2.7	2.7	2.8	3.0	3.2
69.5°	2.7	2.5	2.5	2.6	2.8	2.9
70°	2.5	2.3	2.3	2.5	2.6	2.7
70.5°	2.4	2.2	2.2	2.3	2.4	2.5
71°	2.2	2.0	2.0	2.1	2.2	2.4
71.5°	2.1	1.9	1.9	2.0	2.1	2.2
72°	1.9	1.8	1.8	1.9	1.9	2.0
72.5°	1.8	1.6	1.6	1.7	1.8	1.9
73°	1.7	1.5	1.5	1.6	1.7	1.7
73.5°	1.6	1.3	1.3	1.5	1.5	1.6
74°	1.5	1.2	1.2	1.3	1.3	1.5
74.5°	1.3	1.1	1.1	1.2	1.2	1.3
75°	1.2	1.0	1.0	1.1	1.1	1.2
75.5°	1.1	1.0	1.0	1.0	1.0	1.1
76°	1.0	0.9	0.9	0.9	0.9	1.0
76.5°	0.9	0.8	0.8	0.8	0.8	0.9
77°	0.8	0.7	0.7	0.7	0.8	0.8
77.5°	0.8	0.7	0.7	0.7	0.7	0.7
78°	0.7	0.6	0.6	0.6	0.6	0.7
78.5°	0.6	0.6	0.6	0.6	0.6	0.6
79°	0.6	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.4	0.5
80°	0.5	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.4	0.3	0.4
81°	0.4	0.3	0.3	0.3	0.3	0.3
81.5°	0.3	0.3	0.3	0.3	0.3	0.3
82°	0.3	0.3	0.3	0.2	0.2	0.2
82.5°	0.3	0.2	0.2	0.2	0.2	0.2
83°	0.2	0.2	0.2	0.2	0.2	0.1
83.5°	0.2	0.2	0.2	0.2	0.1	0.1
84°	0.2	0.1	0.1	0.1	0.1	0.1
84.5°	0.1	0.1	0.1	0.1	0.1	0.1
85°	0.1	0.1	0.1	0.1	0.1	0.1
85.5°	0.1	0.1	0.1	0.1	0.0	0.0
86°	0.1	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P775672

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-3500K

**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



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Scaled Data Report





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

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21.5°	747.4	752.8	760.6	770.8	788.0	799.9	808.8	812.7	811.9	807.0	798.1
22°	738.5	744.7	752.7	763.2	780.0	792.4	801.1	805.3	804.5	799.3	790.5



44°	171.7	177.3	181.3	188.4	203.9	217.9	230.5	236.1	230.8	222.5	212.6
44.5°	162.6	168.0	171.2	177.0	192.7	206.1	218.6	223.1	218.2	210.7	200.5



66.5°	4.6	4.8	4.8	4.6	4.7	4.8	4.9	5.0	4.9	4.8	4.5
67°	4.2	4.5	4.4	4.2	4.4	4.5	4.6	4.6	4.6	4.5	4.1



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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21.5°	786.5	768.9	756.5	747.9	745.7	747.4
22°	778.5	760.2	747.2	738.9	736.4	738.5



44°	198.1	176.4	164.7	159.8	164.4	171.7
44.5°	187.3	166.1	154.8	149.6	154.6	162.6

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66.5°	4.1	3.8	3.8	4.0	4.4	4.6
67°	3.8	3.5	3.6	3.8	4.0	4.2

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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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Scaled Data Report



(END OF REPORT)