

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: P775673

Luminaire Tested: HCDJBL510CSD-HCD4TRH-1000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P775673  
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-4000K  
Description: 4 INCH ROUND MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1131.6 lumens  
Efficiency: N/A  
Efficacy: 113.2 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

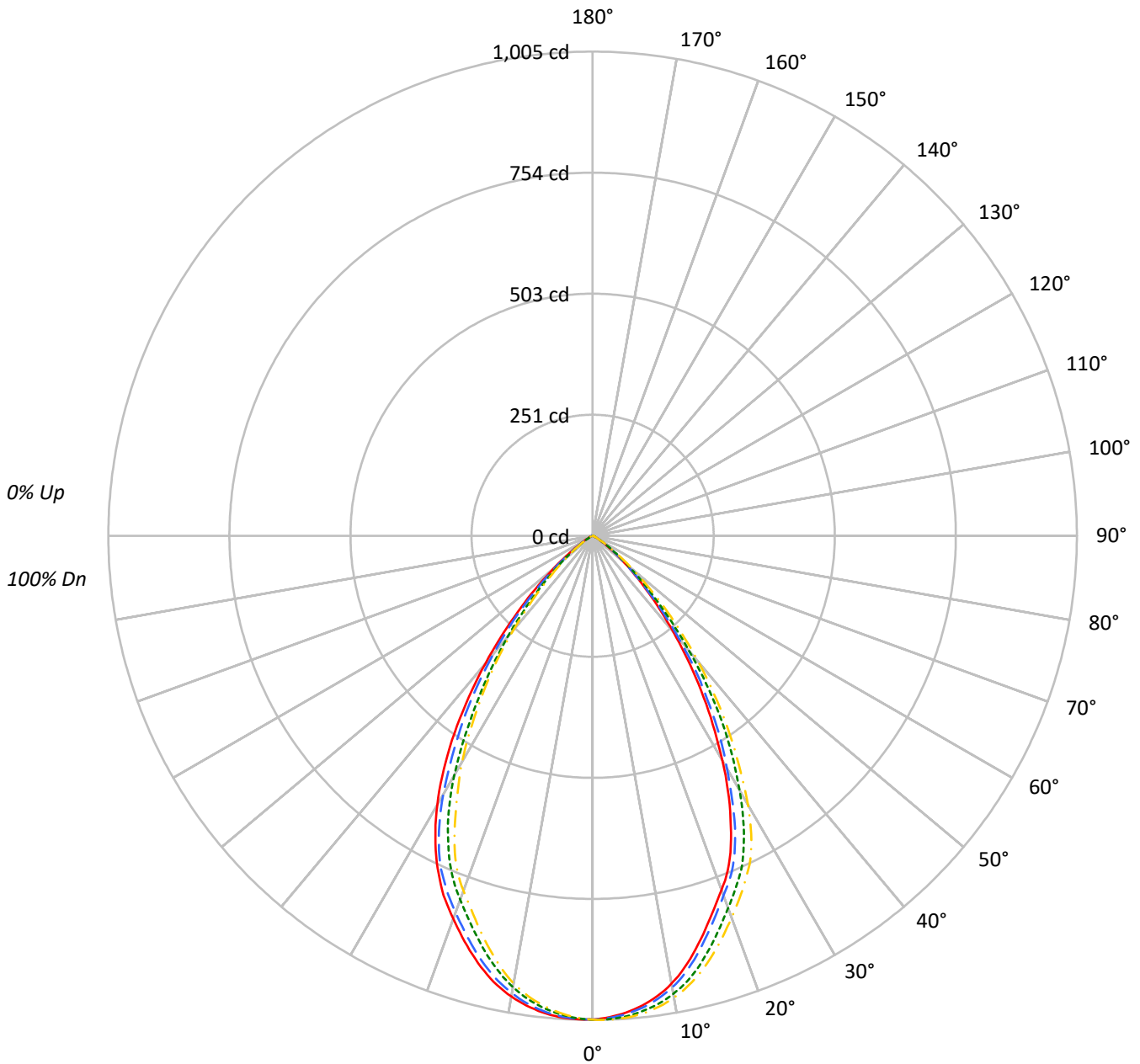
Input Watts (W): 10  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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	99	97	97	95	94	92
	1	113	110	107	105	111	108	105	103	104	102	100	100	99	97	97	95	94	92	92	91	88	86	85	85	85
	2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85	85	85	82	79	78	78	78
	3	101	94	88	84	99	92	87	83	90	85	82	87	84	81	85	82	79	78	78	79	76	73	71	71	71
	4	95	87	81	76	93	85	80	75	83	78	75	81	77	74	79	76	73	71	71	76	73	71	65	65	65
	5	89	80	74	69	88	79	73	69	77	72	68	76	71	68	74	70	67	65	65	70	67	65	60	60	60
	6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60	60	65	62	60	56	56	56
	7	80	70	63	58	78	69	63	58	68	62	58	66	61	58	65	61	57	56	56	61	57	53	52	52	52
	8	75	65	58	54	74	64	58	54	63	58	54	62	57	53	61	57	53	52	52	57	53	49	48	48	48
	9	71	61	54	50	70	60	54	50	59	54	50	58	53	50	58	53	49	48	48	53	49	48	44	44	44
	10	68	57	51	47	67	57	51	47	56	50	46	55	50	46	54	50	46	44	44	46	46	44	40	40	40

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

	0°	90°	180°	270°
0°	126391	126391	126391	126391
5°	124676	125888	126128	125118
10°	120609	123382	124124	121593
15°	112948	117677	119606	115098
20°	104771	110128	113262	107664
25°	94397	102506	105714	98424
30°	78312	88688	93745	83355
35°	60255	71378	76771	63605
40°	42763	51175	56843	45146
45°	27711	32784	37198	28192
50°	16035	19070	20753	15369
55°	7877	9610	9720	7087
60°	3297	3750	3851	2744
65°	1727	1787	1846	1429
70°	993	1030	1104	846
75°	632	681	681	535
80°	290	435	362	290
85°	144	289	144	144

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 157.5°

Vertical Angle: 45°

Luminance: 38034 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.7	8.3
10°-20°	250.1	22.1
20°-30°	327.9	29.0
30°-40°	274.6	24.3
40°-50°	139.2	12.3
50°-60°	38.0	3.4
60°-70°	6.4	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°	671.7	59.4
0°-40°	946.3	83.6
0°-60°	1123.6	99.3
0°-90°	1131.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1131.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1004	1004	1004	1004	1004	
5°	987	996	998	990	987	93
15°	867	903	918	883	867	243
25°	680	738	761	709	680	308
35°	392	465	500	414	392	244
45°	156	184	209	158	156	123
55°	36	44	44	32	36	35
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°	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3
0.5°	1003.1	1003.2	1003.6	1004.4	1004.7	1005.0	1005.1	1005.0	1004.1	1003.9	1004.0
1°	1002.3	1002.4	1003.1	1003.9	1004.7	1005.1	1005.3	1005.2	1004.5	1004.0	1004.0
1.5°	1001.1	1001.5	1002.4	1003.4	1004.5	1005.1	1005.3	1005.3	1004.4	1003.9	1003.5
2°	999.8	1000.5	1001.3	1002.7	1003.9	1004.8	1005.3	1005.2	1004.1	1003.5	1003.2
2.5°	998.3	999.0	1000.3	1001.6	1003.3	1004.5	1005.0	1004.8	1003.7	1002.9	1002.5
3°	996.5	997.4	998.7	1000.5	1002.3	1003.6	1004.4	1004.4	1003.0	1002.2	1001.5
3.5°	994.4	995.5	997.1	998.8	1001.2	1002.8	1003.5	1003.4	1002.3	1001.2	1000.4
4°	992.2	993.4	995.0	997.0	999.9	1001.6	1002.7	1002.5	1001.2	1000.0	999.1
4.5°	989.8	991.0	992.9	995.1	998.4	1000.4	1001.6	1001.4	999.7	998.6	997.4
5°	986.9	988.6	990.4	992.7	996.5	998.9	1000.2	999.9	998.4	997.0	995.7
5.5°	984.0	985.5	987.8	990.3	994.5	997.1	998.6	998.3	996.6	995.1	993.6
6°	980.5	982.4	985.0	987.6	992.1	995.1	996.8	996.6	994.7	993.1	991.5
6.5°	977.1	979.3	981.9	984.9	989.6	993.0	994.9	994.5	992.6	990.7	988.9
7°	973.3	975.6	978.5	981.9	986.9	990.6	992.6	992.4	990.2	988.3	986.2
7.5°	969.2	971.5	974.8	978.5	984.0	988.0	990.0	989.8	987.6	985.4	983.1
8°	964.7	967.4	970.9	974.9	980.8	985.0	987.1	986.7	984.9	982.5	979.9
8.5°	960.0	962.7	966.6	970.9	977.4	981.8	984.2	984.0	981.8	979.2	976.3
9°	954.9	957.8	961.9	966.7	973.8	978.4	980.8	980.6	978.5	975.8	972.5
9.5°	949.6	952.7	957.1	962.2	969.7	974.6	977.4	977.1	975.1	972.1	968.4
10°	943.8	947.2	951.9	957.4	965.5	970.6	973.3	973.4	971.3	968.2	964.1
10.5°	937.5	941.1	946.6	952.1	960.7	966.1	969.2	969.5	967.3	963.8	959.7
11°	931.2	934.9	940.4	946.7	955.8	961.5	964.8	965.0	962.9	959.4	954.8
11.5°	924.1	928.3	934.0	940.7	950.7	956.7	960.1	960.4	958.3	954.5	949.5
12°	916.6	920.9	927.0	934.4	945.1	951.2	955.0	955.5	953.5	949.5	944.3
12.5°	908.9	913.4	919.8	927.4	938.8	945.5	949.9	950.6	948.3	944.1	938.6
13°	901.1	905.7	912.2	920.6	932.4	939.7	944.0	944.9	942.8	938.4	932.6
13.5°	892.8	897.4	904.5	912.8	925.7	933.1	938.3	939.2	937.0	932.5	926.5
14°	884.1	889.2	896.2	905.1	918.5	926.6	931.9	932.9	930.8	926.4	919.8
14.5°	875.6	880.4	887.7	896.9	910.9	919.7	925.2	926.8	924.7	920.0	913.3
15°	866.9	872.0	879.2	888.9	903.2	912.5	918.5	919.9	918.0	913.1	906.4
15.5°	858.1	863.2	870.6	880.5	895.5	905.1	911.7	913.4	911.3	906.5	899.5
16°	849.5	854.5	862.2	872.0	887.5	897.7	904.6	906.4	904.5	899.5	892.3
16.5°	840.5	845.8	853.5	863.8	879.6	890.1	897.1	899.7	897.6	892.6	885.0
17°	832.0	837.0	844.8	855.0	871.2	882.5	889.6	892.3	890.3	885.4	877.4
17.5°	823.2	828.3	836.0	846.6	862.9	874.4	882.1	884.8	883.1	877.8	870.1
18°	814.6	819.8	827.6	838.2	854.8	866.6	874.4	877.2	875.6	870.5	862.2
18.5°	805.9	811.1	818.9	829.6	846.5	858.6	866.7	870.1	868.0	863.0	854.4
19°	797.9	802.9	810.6	821.3	838.3	850.4	858.9	861.9	860.5	855.5	846.8
19.5°	789.8	794.8	802.6	813.1	830.4	842.5	851.2	854.3	853.0	848.0	839.5
20°	782.3	787.1	794.6	805.2	822.3	834.5	843.2	846.9	845.7	840.6	831.9
20.5°	774.3	779.3	786.8	797.2	814.5	826.6	835.6	839.4	838.2	833.3	824.4
21°	766.6	771.4	779.2	789.4	806.7	818.9	827.8	831.5	830.8	825.8	816.9



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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°	738.6	745.4	754.6	765.8	782.8	795.7	805.0	809.2	807.9	802.4	793.0
23°	728.4	735.1	745.0	757.2	774.9	787.2	797.3	801.2	799.6	793.0	784.6
23.5°	717.1	723.9	734.8	747.4	766.8	778.7	789.2	792.6	790.0	783.8	776.2
24°	705.0	712.3	723.7	737.0	758.7	770.2	780.9	784.0	780.4	774.4	767.7
24.5°	692.3	699.7	712.0	726.0	748.7	761.8	772.7	775.5	770.9	765.1	759.3
25°	679.8	687.1	699.9	713.9	738.2	753.4	764.5	766.9	761.3	755.7	748.9
25.5°	666.2	673.9	687.1	701.3	727.2	743.2	756.2	758.3	751.7	745.3	738.3
26°	653.1	661.4	673.9	687.5	715.4	732.5	746.4	747.6	740.8	733.7	727.2
26.5°	639.3	648.2	659.8	673.2	703.5	721.4	736.0	737.2	729.8	722.2	715.4
27°	625.9	634.9	645.4	658.7	691.2	709.6	725.1	725.4	718.2	710.8	703.2
27.5°	611.8	621.2	630.1	644.6	678.8	698.0	713.6	713.9	706.6	699.2	690.4
28°	597.9	607.5	615.4	630.7	665.8	686.0	701.0	701.3	694.8	687.3	677.2
28.5°	583.3	593.5	600.5	616.9	651.9	673.7	687.8	688.8	683.2	675.4	663.7
29°	568.8	579.2	585.7	603.5	638.2	660.8	674.2	675.6	670.8	662.8	649.7
29.5°	554.0	564.3	571.6	590.4	624.0	647.7	659.6	662.1	658.2	650.1	635.2
30°	538.9	548.9	557.8	577.1	610.3	634.1	644.4	647.7	645.1	636.7	619.8
30.5°	523.3	533.7	543.9	564.1	594.8	619.6	628.4	633.2	631.8	623.1	604.3
31°	508.2	518.5	530.1	550.0	580.1	604.6	613.0	618.2	617.9	609.5	588.9
31.5°	493.1	503.0	516.4	536.2	565.6	588.9	596.8	602.8	603.8	594.9	573.0
32°	478.2	487.9	502.4	521.4	552.1	573.4	581.0	587.2	589.3	580.1	557.7
32.5°	464.0	472.8	488.2	506.8	537.2	558.0	565.4	572.0	575.2	565.4	542.3
33°	449.8	458.4	474.1	491.6	522.8	541.9	550.3	556.6	560.3	551.0	527.1
33.5°	435.3	444.0	459.6	476.1	508.6	525.7	535.2	541.3	545.7	535.8	512.3
34°	421.2	429.4	444.7	460.5	494.7	508.9	520.3	526.1	530.3	520.1	497.6
34.5°	406.8	414.5	429.8	445.6	479.4	492.2	505.4	511.3	515.3	505.1	483.1
35°	392.2	399.5	415.2	431.0	464.6	475.5	490.3	496.7	499.7	489.6	468.3
35.5°	378.7	385.4	400.8	417.0	449.2	459.4	475.4	482.2	484.5	473.5	453.8
36°	365.0	371.7	386.6	403.2	434.7	443.4	460.4	467.4	468.4	457.7	439.3
36.5°	351.2	358.0	376.8	389.3	418.1	427.9	445.3	453.0	452.7	441.8	424.5
37°	337.4	344.2	362.3	373.5	402.7	412.4	429.9	438.0	436.7	426.2	409.5
37.5°	323.6	330.6	347.9	360.2	386.7	397.6	414.3	423.2	421.6	410.7	394.5
38°	309.9	316.9	333.5	346.9	371.6	383.2	399.0	408.1	406.0	395.3	379.2
38.5°	297.0	304.3	319.0	333.6	355.6	368.5	384.0	393.1	390.8	380.2	364.4
39°	284.6	291.9	305.7	320.4	340.8	354.3	369.0	378.1	376.0	365.5	349.9
39.5°	272.3	279.2	292.3	306.2	325.5	339.8	354.4	363.5	361.2	350.7	335.7
40°	260.3	266.6	279.1	292.0	311.5	326.1	339.8	348.7	346.0	336.2	321.3
40.5°	248.3	254.8	266.3	278.4	296.6	311.8	325.7	334.2	331.4	321.7	308.1
41°	236.9	242.9	253.3	264.9	283.1	298.2	312.1	320.4	316.8	306.7	294.1
41.5°	225.7	232.0	240.8	252.0	269.4	284.6	298.3	306.4	302.4	292.5	280.8
42°	215.0	221.0	228.8	239.4	256.4	271.5	285.0	292.8	287.9	278.7	267.3
42.5°	204.2	210.3	217.1	227.1	243.6	258.3	271.8	278.9	274.0	265.0	254.2
43°	193.9	199.8	205.4	214.9	231.1	245.6	258.8	265.6	260.4	252.0	241.2
43.5°	183.9	189.8	194.5	202.7	218.6	233.1	246.1	252.7	246.9	238.5	228.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	155.7	161.2	163.7	168.2	184.2	198.0	209.8	213.7	209.0	201.5	191.1
45.5°	147.1	152.4	154.2	157.7	173.8	186.6	198.4	201.2	197.1	190.0	179.5
46°	138.6	143.9	144.9	147.2	163.5	176.0	187.6	189.5	185.7	178.4	168.3
46.5°	130.5	135.7	135.9	137.4	153.7	165.7	176.4	177.4	174.4	167.2	157.5
47°	122.4	127.5	127.5	128.4	144.4	155.6	165.7	166.2	163.4	156.9	146.9
47.5°	115.2	119.8	119.4	119.8	135.3	146.0	155.2	155.3	152.8	146.8	137.0
48°	107.9	112.5	111.7	111.8	126.7	136.8	145.3	145.0	142.6	136.3	127.6
48.5°	101.0	105.5	104.6	104.7	118.6	128.1	135.4	134.9	132.8	126.8	118.5
49°	94.3	98.7	97.5	97.9	111.0	119.6	126.0	125.5	123.5	117.9	109.8
49.5°	88.0	92.2	91.1	91.5	103.6	111.6	117.1	116.6	114.3	109.2	102.5
50°	81.9	85.9	85.1	85.7	97.4	104.0	108.4	108.2	106.0	101.9	95.2
50.5°	76.1	79.9	79.4	80.2	91.1	97.4	101.2	101.0	98.9	94.7	88.0
51°	70.5	74.1	74.1	75.0	84.9	90.8	93.9	93.7	91.6	87.3	80.7
51.5°	65.1	68.6	68.8	70.0	78.6	84.3	86.7	86.6	84.4	80.1	73.5
52°	60.2	63.5	63.9	65.3	72.4	77.7	79.4	79.3	77.1	72.8	67.3
52.5°	55.4	58.5	59.2	60.5	67.0	71.0	72.2	72.2	70.0	66.3	61.5
53°	50.9	53.7	54.5	56.0	61.8	65.5	66.3	66.2	64.1	60.6	56.2
53.5°	46.6	49.2	50.2	51.7	57.1	60.1	60.8	60.4	58.6	55.4	51.2
54°	42.6	45.0	46.1	47.5	52.4	54.9	55.7	55.2	53.5	50.5	46.7
54.5°	39.1	41.2	42.2	43.6	47.9	50.0	50.8	50.2	48.5	45.8	42.3
55°	35.9	37.6	38.7	39.9	43.8	45.6	46.1	45.8	44.3	41.7	38.8
55.5°	32.9	34.6	35.5	36.8	39.9	41.4	41.9	41.7	40.4	38.1	35.3
56°	29.7	31.5	32.4	33.5	36.4	37.6	38.1	37.9	36.8	34.8	31.7
56.5°	26.6	28.5	29.2	30.3	33.0	34.2	34.7	34.4	33.3	31.1	28.4
57°	23.4	25.3	26.1	27.0	29.5	30.7	31.2	30.8	29.9	28.0	25.3
57.5°	21.1	22.3	22.9	23.7	26.3	27.3	27.7	27.6	26.7	24.9	22.6
58°	19.1	20.1	20.6	21.2	23.4	24.3	24.7	24.6	23.9	22.3	20.2
58.5°	17.3	18.2	18.5	18.9	20.9	21.6	22.0	22.0	21.3	20.0	18.1
59°	15.8	16.5	16.7	17.0	18.6	19.1	19.5	19.5	19.0	18.0	16.3
59.5°	14.4	15.0	15.0	15.3	16.6	17.1	17.4	17.4	17.0	16.1	14.6
60°	13.1	13.7	13.8	13.9	14.9	15.3	15.6	15.7	15.3	14.5	13.2
60.5°	12.0	12.5	12.5	12.5	13.5	13.8	14.0	14.2	13.9	13.2	12.1
61°	10.9	11.5	11.5	11.3	12.2	12.5	12.6	12.8	12.5	12.0	10.9
61.5°	10.1	10.5	10.5	10.4	11.0	11.3	11.5	11.7	11.3	10.9	10.1
62°	9.2	9.7	9.6	9.6	10.1	10.3	10.4	10.6	10.4	10.0	9.4
62.5°	8.6	8.9	8.8	8.7	9.4	9.6	9.6	9.7	9.5	9.2	8.7
63°	7.9	8.3	8.2	8.0	8.6	8.8	8.9	9.0	8.8	8.6	8.0
63.5°	7.3	7.7	7.5	7.4	7.9	8.1	8.2	8.3	8.2	7.9	7.4
64°	6.7	7.0	6.9	6.8	7.3	7.4	7.6	7.7	7.6	7.3	6.6
64.5°	6.2	6.5	6.4	6.3	6.5	6.6	6.9	7.0	6.9	6.5	6.1
65°	5.8	6.1	6.0	5.8	6.0	6.1	6.2	6.3	6.2	6.1	5.7
65.5°	5.4	5.6	5.6	5.4	5.6	5.7	5.8	5.9	5.8	5.7	5.3
66°	4.9	5.3	5.1	5.0	5.1	5.3	5.4	5.5	5.4	5.3	4.9





TEST NUMBER: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.0	4.2	4.1	4.0	4.1	4.2	4.3	4.3	4.3	4.2	3.9
68°	3.7	3.9	3.9	3.8	3.8	3.9	4.0	4.0	4.0	3.9	3.7
68.5°	3.5	3.7	3.7	3.6	3.6	3.6	3.7	3.8	3.7	3.7	3.4
69°	3.3	3.4	3.4	3.3	3.4	3.4	3.5	3.5	3.5	3.4	3.2
69.5°	2.9	3.2	3.2	3.0	3.2	3.2	3.3	3.3	3.3	3.2	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°	1.4	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.4
75°	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.3
75.5°	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.2
76°	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.1
76.5°	0.9	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.1
77°	0.8	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.1	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: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-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: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1004.3	1004.3	1004.3	1004.3	1004.3	1004.3
0.5°	1004.0	1003.9	1004.0	1003.8	1003.6	1003.1
1°	1003.8	1003.3	1003.1	1002.8	1002.6	1002.3
1.5°	1003.3	1002.5	1001.9	1001.6	1001.5	1001.1
2°	1002.6	1001.4	1000.8	1000.4	1000.2	999.8
2.5°	1001.5	1000.2	999.1	998.5	998.4	998.3
3°	1000.5	998.6	997.4	996.6	996.4	996.5
3.5°	999.2	996.9	995.3	994.5	994.3	994.4
4°	997.6	994.9	993.1	992.0	991.9	992.2
4.5°	995.8	992.8	990.7	989.5	989.2	989.8
5°	993.8	990.4	988.1	986.7	986.3	986.9
5.5°	991.5	987.8	984.9	983.7	983.3	984.0
6°	989.1	984.9	981.9	980.2	980.0	980.5
6.5°	986.4	981.7	978.5	976.8	976.4	977.1
7°	983.3	978.3	974.7	972.9	972.3	973.3
7.5°	980.0	974.6	970.8	968.8	968.2	969.2
8°	976.5	970.6	966.7	964.4	963.8	964.7
8.5°	972.6	966.2	962.1	959.8	959.1	960.0
9°	968.5	961.6	957.3	954.7	953.8	954.9
9.5°	964.0	956.8	952.2	949.1	948.5	949.6
10°	959.4	951.5	946.6	943.5	942.5	943.8
10.5°	954.3	945.8	940.7	937.4	936.5	937.5
11°	949.0	940.0	934.5	930.7	929.4	931.2
11.5°	943.4	934.0	927.6	923.6	922.6	924.1
12°	937.7	927.3	920.6	916.2	915.0	916.6
12.5°	931.4	920.5	913.3	908.5	907.1	908.9
13°	925.1	913.5	905.7	900.5	899.0	901.1
13.5°	918.4	906.3	898.1	892.3	890.9	892.8
14°	911.6	898.9	889.9	884.1	882.4	884.1
14.5°	904.2	891.2	882.0	875.9	873.8	875.6
15°	897.3	883.4	873.4	867.2	864.9	866.9
15.5°	889.7	875.4	865.4	858.7	856.2	858.1
16°	882.3	867.5	856.9	849.9	847.5	849.5
16.5°	874.5	859.7	849.2	841.4	839.0	840.5
17°	866.9	851.3	840.6	832.4	830.2	832.0
17.5°	859.0	843.5	832.3	824.1	821.4	823.2
18°	851.0	835.3	823.8	815.5	812.9	814.6
18.5°	843.2	827.2	815.9	807.2	804.6	805.9
19°	835.5	819.2	808.0	799.6	796.6	797.9
19.5°	827.8	811.7	800.2	791.8	788.6	789.8
20°	820.4	803.9	792.3	783.9	780.7	782.3
20.5°	812.5	796.0	784.4	776.1	772.8	774.3
21°	805.2	788.0	775.9	767.5	764.8	766.6

TEST NUMBER: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	781.3	761.9	747.8	739.4	736.7	738.6
23°	773.2	752.0	737.5	728.4	726.1	728.4
23.5°	765.0	742.1	726.5	717.0	714.9	717.1
24°	756.9	731.4	715.1	704.9	702.6	705.0
24.5°	747.1	720.3	703.4	691.6	689.6	692.3
25°	737.0	708.8	691.5	678.0	676.6	679.8
25.5°	726.0	697.0	679.2	663.8	662.3	666.2
26°	714.8	685.1	666.6	649.5	648.3	653.1
26.5°	702.1	672.8	653.4	635.6	633.5	639.3
27°	689.2	660.3	639.9	622.0	618.6	625.9
27.5°	675.1	647.0	626.1	608.3	603.8	611.8
28°	660.7	633.3	611.8	595.1	589.4	597.9
28.5°	645.4	619.2	597.2	582.0	574.8	583.3
29°	629.5	604.4	582.6	568.9	561.2	568.8
29.5°	613.5	589.3	567.7	555.5	546.8	554.0
30°	597.7	573.6	553.1	541.9	533.2	538.9
30.5°	581.4	558.0	538.3	527.5	519.6	523.3
31°	566.1	542.0	524.5	513.0	505.8	508.2
31.5°	551.0	525.7	510.0	497.9	491.7	493.1
32°	536.2	509.6	495.7	482.3	477.6	478.2
32.5°	521.7	493.4	481.3	467.0	463.2	464.0
33°	506.6	477.0	466.5	452.1	448.7	449.8
33.5°	491.9	460.5	451.1	437.2	434.2	435.3
34°	477.1	444.9	436.2	422.5	419.6	421.2
34.5°	462.1	429.4	420.7	407.8	404.6	406.8
35°	446.9	414.0	405.4	394.1	390.4	392.2
35.5°	431.7	399.6	389.7	380.6	376.3	378.7
36°	416.3	385.2	372.6	366.7	363.1	365.0
36.5°	401.1	371.1	358.1	353.0	349.8	351.2
37°	385.9	357.1	343.5	339.1	336.6	337.4
37.5°	370.9	343.1	329.0	325.3	323.4	323.6
38°	356.4	329.0	314.4	311.5	310.2	309.9
38.5°	342.2	315.0	300.0	297.6	297.3	297.0
39°	328.2	301.4	286.7	284.0	284.5	284.6
39.5°	314.5	287.8	273.1	270.5	271.1	272.3
40°	300.8	274.8	259.8	257.1	258.2	260.3
40.5°	287.5	261.8	246.9	244.1	245.7	248.3
41°	274.4	248.8	234.4	231.3	233.5	236.9
41.5°	261.4	236.2	222.0	219.0	221.5	225.7
42°	248.6	224.3	210.3	207.0	209.6	215.0
42.5°	236.3	212.3	198.9	195.2	198.5	204.2
43°	224.2	200.8	187.9	183.8	187.5	193.9
43.5°	212.4	189.6	177.2	172.4	176.9	183.9

TEST NUMBER: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	178.7	158.4	147.5	141.9	147.0	155.7
45.5°	168.2	148.6	138.6	132.6	137.8	147.1
46°	157.8	139.3	130.0	123.8	128.9	138.6
46.5°	147.6	130.5	121.6	115.5	120.6	130.5
47°	137.9	122.0	113.8	108.0	112.9	122.4
47.5°	128.2	113.6	106.3	101.1	105.4	115.2
48°	119.1	105.9	99.3	94.4	98.6	107.9
48.5°	110.6	98.7	92.6	88.2	92.1	101.0
49°	102.3	91.6	86.1	82.3	85.9	94.3
49.5°	95.2	85.0	80.0	77.0	80.4	88.0
50°	88.1	78.5	74.2	71.9	74.8	81.9
50.5°	80.9	72.4	68.6	66.8	69.8	76.1
51°	73.8	66.7	63.4	62.1	64.8	70.5
51.5°	67.8	61.3	58.4	57.7	60.1	65.1
52°	62.2	56.2	53.7	53.4	55.6	60.2
52.5°	56.7	51.2	49.3	49.2	51.4	55.4
53°	51.9	46.6	45.1	45.1	47.3	50.9
53.5°	47.3	42.3	41.2	41.4	43.4	46.6
54°	43.0	38.6	37.5	37.9	39.7	42.6
54.5°	39.2	35.4	34.5	34.9	36.8	39.1
55°	35.7	32.3	31.4	31.8	33.6	35.9
55.5°	32.3	29.0	28.3	28.8	30.5	32.9
56°	28.8	25.8	25.2	25.7	27.3	29.7
56.5°	25.7	22.7	22.2	22.7	24.2	26.6
57°	22.9	20.2	19.8	20.3	21.6	23.4
57.5°	20.4	18.1	17.8	18.3	19.5	21.1
58°	18.2	16.3	16.0	16.5	17.8	19.1
58.5°	16.4	14.6	14.5	14.9	16.1	17.3
59°	14.7	13.2	13.1	13.7	14.7	15.8
59.5°	13.3	12.0	11.9	12.4	13.3	14.4
60°	12.1	10.9	10.8	11.3	12.3	13.1
60.5°	11.0	10.0	9.9	10.4	11.2	12.0
61°	10.1	9.1	9.0	9.6	10.3	10.9
61.5°	9.4	8.4	8.3	8.8	9.6	10.1
62°	8.6	7.7	7.7	8.1	8.8	9.2
62.5°	8.0	7.0	7.0	7.5	8.1	8.6
63°	7.3	6.5	6.5	6.9	7.5	7.9
63.5°	6.6	6.0	6.1	6.4	6.9	7.3
64°	6.1	5.6	5.6	5.9	6.4	6.7
64.5°	5.7	5.1	5.1	5.5	5.9	6.2
65°	5.3	4.8	4.8	5.0	5.5	5.8
65.5°	4.8	4.4	4.5	4.7	5.1	5.4
66°	4.5	4.1	4.2	4.4	4.7	4.9



TEST NUMBER: P775673

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.6	3.4	3.4	3.6	3.8	4.0
68°	3.4	3.2	3.2	3.4	3.6	3.7
68.5°	3.2	2.9	2.9	3.0	3.3	3.5
69°	2.9	2.7	2.7	2.8	3.0	3.3
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	1.4	1.4	1.5	1.5	1.6
74°	1.5	1.3	1.3	1.4	1.4	1.5
74.5°	1.4	1.2	1.2	1.3	1.3	1.4
75°	1.3	1.1	1.1	1.2	1.2	1.3
75.5°	1.2	1.1	1.1	1.1	1.1	1.2
76°	1.1	0.9	0.9	0.9	0.9	1.1
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: P775673  
CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-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



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Scaled Data Report





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

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Scaled Data Report





21.5°	757.8	763.3	771.3	781.6	799.0	811.1	820.2	824.0	823.3	818.3	809.3
22°	748.8	755.1	763.2	773.9	790.9	803.5	812.4	816.6	815.7	810.5	801.6



44°	174.1	179.8	183.9	191.0	206.8	221.0	233.7	239.4	234.0	225.6	215.6
44.5°	164.9	170.3	173.6	179.5	195.4	209.0	221.6	226.2	221.3	213.6	203.3



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°	4.3	4.5	4.4	4.3	4.4	4.5	4.6	4.6	4.6	4.5	4.2



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°	797.6	779.7	767.1	758.4	756.2	757.8
22°	789.4	770.9	757.6	749.2	746.7	748.8



44°	200.9	178.8	167.0	162.0	166.7	174.1
44.5°	189.9	168.4	157.0	151.7	156.8	164.9



66.5°	4.2	3.9	3.9	4.1	4.4	4.6
67°	3.9	3.6	3.7	3.9	4.1	4.3

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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)