

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: P775674

Luminaire Tested: HCDJBL510CSD-HCD4TRH-1000lm-5000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775674
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-5000K
Description: 4 INCH ROUND MEDIUM HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1148.4 lumens
Efficiency: N/A
Efficacy: 114.8 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

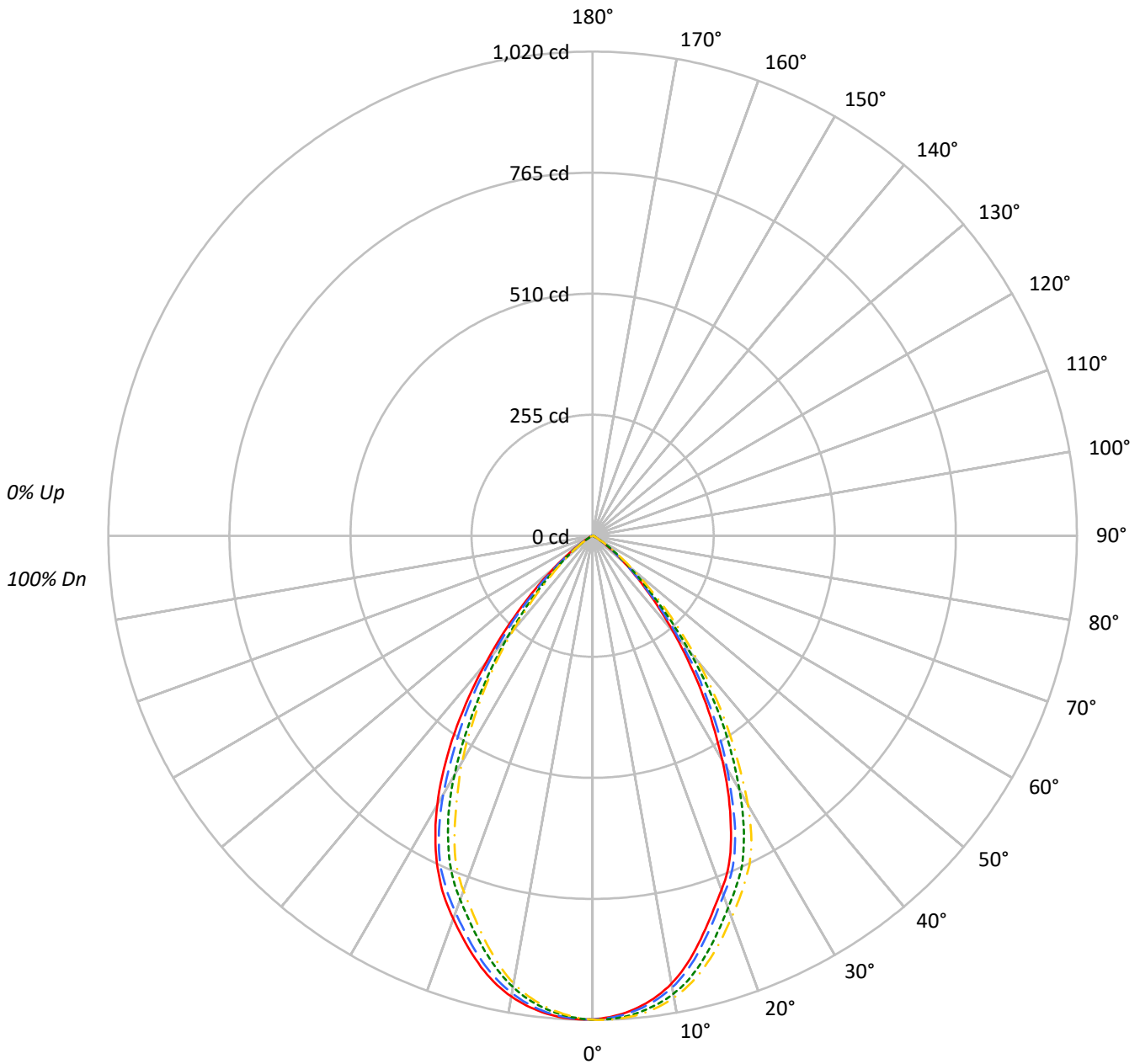
Input Watts (W): 10
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	128254	128254	128254	128254
5°	126520	127745	127998	126962
10°	122398	125210	125951	123395
15°	114615	119410	121378	116804
20°	106324	111748	114936	109257
25°	95786	104020	107283	99882
30°	79460	89996	95126	84590
35°	61146	72423	77908	64542
40°	43388	51931	57697	45819
45°	28121	33264	37749	28601
50°	16270	19363	21067	15604
55°	8009	9764	9874	7175
60°	3348	3801	3927	2794
65°	1757	1816	1876	1459
70°	1030	1067	1141	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: 38604 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.1	8.3
10°-20°	253.9	22.1
20°-30°	332.7	29.0
30°-40°	278.6	24.3
40°-50°	141.3	12.3
50°-60°	38.6	3.4
60°-70°	6.5	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°	681.7	59.4
0°-40°	960.3	83.6
0°-60°	1140.2	99.3
0°-90°	1148.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1148.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1019	1019	1019	1019	1019	
5°	1002	1011	1013	1005	1002	94
15°	880	916	932	896	880	246
25°	690	749	773	719	690	313
35°	398	471	507	420	398	248
45°	158	187	212	161	158	124
55°	36	44	45	33	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°	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1
0.5°	1017.9	1018.1	1018.5	1019.2	1019.5	1019.9	1020.0	1019.9	1019.0	1018.8	1018.9
1°	1017.1	1017.2	1017.9	1018.8	1019.5	1020.0	1020.2	1020.1	1019.3	1018.9	1018.9
1.5°	1015.9	1016.3	1017.2	1018.3	1019.3	1020.0	1020.2	1020.2	1019.2	1018.8	1018.4
2°	1014.6	1015.3	1016.1	1017.5	1018.8	1019.7	1020.2	1020.1	1019.0	1018.4	1018.1
2.5°	1013.0	1013.8	1015.1	1016.5	1018.2	1019.3	1019.9	1019.7	1018.6	1017.7	1017.3
3°	1011.2	1012.2	1013.5	1015.3	1017.1	1018.5	1019.2	1019.2	1017.8	1017.0	1016.3
3.5°	1009.1	1010.3	1011.9	1013.6	1016.0	1017.6	1018.4	1018.3	1017.1	1016.0	1015.2
4°	1006.9	1008.1	1009.7	1011.8	1014.8	1016.5	1017.5	1017.3	1016.0	1014.9	1013.9
4.5°	1004.4	1005.7	1007.6	1009.8	1013.2	1015.2	1016.5	1016.2	1014.5	1013.4	1012.2
5°	1001.5	1003.2	1005.0	1007.4	1011.2	1013.7	1015.0	1014.8	1013.2	1011.8	1010.5
5.5°	998.5	1000.1	1002.4	1004.9	1009.2	1011.9	1013.4	1013.0	1011.3	1009.8	1008.4
6°	995.0	996.9	999.6	1002.3	1006.8	1009.8	1011.6	1011.3	1009.4	1007.8	1006.2
6.5°	991.6	993.8	996.4	999.5	1004.3	1007.7	1009.6	1009.2	1007.3	1005.4	1003.6
7°	987.7	990.0	993.0	996.4	1001.5	1005.3	1007.3	1007.1	1004.8	1002.9	1000.8
7.5°	983.5	985.9	989.3	993.0	998.5	1002.6	1004.6	1004.4	1002.3	1000.0	997.7
8°	979.0	981.7	985.3	989.4	995.3	999.6	1001.7	1001.3	999.5	997.0	994.4
8.5°	974.2	977.0	980.9	985.3	991.8	996.3	998.8	998.5	996.3	993.7	990.8
9°	969.0	972.0	976.1	981.1	988.2	992.9	995.3	995.1	993.0	990.2	986.9
9.5°	963.7	966.8	971.2	976.5	984.0	989.1	991.8	991.6	989.6	986.5	982.8
10°	957.8	961.2	966.0	971.6	979.8	985.0	987.7	987.8	985.6	982.5	978.4
10.5°	951.4	955.0	960.6	966.2	975.0	980.4	983.5	983.8	981.6	978.1	973.9
11°	945.0	948.7	954.3	960.7	970.0	975.7	979.1	979.2	977.1	973.6	968.9
11.5°	937.8	942.0	947.8	954.6	964.7	970.8	974.3	974.7	972.5	968.7	963.6
12°	930.2	934.6	940.7	948.2	959.1	965.3	969.1	969.6	967.6	963.6	958.2
12.5°	922.4	926.9	933.4	941.2	952.7	959.5	964.0	964.6	962.4	958.1	952.5
13°	914.4	919.1	925.7	934.2	946.2	953.6	958.0	958.9	956.7	952.3	946.4
13.5°	906.0	910.7	917.9	926.3	939.4	946.9	952.2	953.1	950.9	946.3	940.2
14°	897.2	902.4	909.5	918.5	932.1	940.3	945.7	946.7	944.6	940.1	933.4
14.5°	888.6	893.4	900.9	910.1	924.4	933.3	938.9	940.5	938.4	933.6	926.8
15°	879.7	884.9	892.2	902.0	916.5	926.0	932.1	933.5	931.6	926.7	919.8
15.5°	870.8	876.0	883.5	893.5	908.8	918.5	925.2	926.9	924.7	920.0	912.8
16°	862.0	867.2	875.0	884.9	900.6	911.0	918.0	919.8	917.9	912.8	905.6
16.5°	853.0	858.3	866.1	876.5	892.7	903.3	910.4	913.0	910.9	905.8	898.1
17°	844.3	849.4	857.4	867.7	884.1	895.5	902.8	905.6	903.5	898.5	890.4
17.5°	835.4	840.6	848.4	859.2	875.7	887.3	895.2	897.9	896.2	890.8	882.9
18°	826.6	832.0	839.9	850.6	867.5	879.4	887.3	890.2	888.6	883.4	875.0
18.5°	817.8	823.1	831.0	841.9	859.1	871.3	879.5	882.9	880.8	875.8	867.1
19°	809.7	814.8	822.6	833.5	850.7	863.0	871.6	874.6	873.2	868.1	859.4
19.5°	801.5	806.6	814.5	825.2	842.7	855.0	863.8	867.0	865.7	860.6	851.9
20°	793.9	798.7	806.4	817.2	834.4	846.9	855.6	859.5	858.2	853.1	844.2
20.5°	785.8	790.8	798.5	809.0	826.5	838.8	848.0	851.8	850.6	845.6	836.6
21°	777.9	782.8	790.7	801.1	818.6	831.0	840.1	843.8	843.1	838.1	829.0



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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°	749.5	756.5	765.8	777.2	794.4	807.4	816.9	821.2	819.8	814.3	804.8
23°	739.2	746.0	756.1	768.4	786.3	798.8	809.2	813.1	811.4	804.8	796.3
23.5°	727.7	734.6	745.7	758.5	778.1	790.3	800.8	804.4	801.7	795.4	787.7
24°	715.4	722.9	734.4	747.9	769.9	781.6	792.4	795.6	792.0	785.9	779.1
24.5°	702.5	710.1	722.6	736.7	759.8	773.1	784.1	787.0	782.3	776.4	770.6
25°	689.8	697.3	710.3	724.5	749.1	764.6	775.8	778.2	772.6	766.9	760.0
25.5°	676.1	683.9	697.3	711.7	737.9	754.2	767.4	769.5	762.9	756.4	749.2
26°	662.7	671.2	683.9	697.7	726.0	743.4	757.4	758.7	751.8	744.5	737.9
26.5°	648.8	657.8	669.6	683.2	713.9	732.1	746.9	748.2	740.6	732.9	726.0
27°	635.1	644.3	655.0	668.5	701.5	720.1	735.8	736.1	728.9	721.3	713.6
27.5°	620.8	630.4	639.4	654.1	688.9	708.4	724.2	724.5	717.0	709.6	700.6
28°	606.8	616.5	624.5	640.0	675.6	696.1	711.4	711.7	705.1	697.5	687.3
28.5°	591.9	602.3	609.4	626.1	661.6	683.6	697.9	699.0	693.3	685.4	673.5
29°	577.2	587.8	594.4	612.4	647.6	670.6	684.2	685.6	680.8	672.7	659.3
29.5°	562.2	572.6	580.1	599.2	633.2	657.3	669.4	671.9	668.0	659.8	644.6
30°	546.8	557.1	566.0	585.6	619.3	643.4	653.9	657.3	654.6	646.1	628.9
30.5°	531.0	541.6	551.9	572.4	603.6	628.7	637.7	642.6	641.2	632.4	613.3
31°	515.7	526.1	538.0	558.1	588.7	613.6	622.1	627.3	627.0	618.5	597.6
31.5°	500.4	510.5	524.0	544.2	574.0	597.6	605.6	611.8	612.7	603.7	581.5
32°	485.3	495.1	509.8	529.1	560.3	581.9	589.6	595.9	598.0	588.7	565.9
32.5°	470.9	479.8	495.4	514.3	545.1	566.2	573.8	580.4	583.7	573.8	550.3
33°	456.5	465.1	481.1	498.8	530.5	549.9	558.5	564.9	568.6	559.2	534.9
33.5°	441.8	450.5	466.4	483.2	516.1	533.5	543.1	549.3	553.8	543.7	519.9
34°	427.4	435.7	451.3	467.3	502.0	516.4	528.0	533.9	538.2	527.8	504.9
34.5°	412.8	420.7	436.1	452.2	486.5	499.5	512.9	518.9	522.9	512.6	490.2
35°	398.0	405.4	421.3	437.4	471.4	482.5	497.6	504.1	507.1	496.8	475.3
35.5°	384.3	391.1	406.7	423.1	455.9	466.2	482.4	489.4	491.7	480.5	460.6
36°	370.5	377.2	392.3	409.2	441.2	450.0	467.2	474.3	475.4	464.5	445.8
36.5°	356.4	363.3	382.4	395.1	424.3	434.2	451.9	459.7	459.4	448.3	430.8
37°	342.4	349.3	367.7	379.0	408.6	418.5	436.2	444.5	443.2	432.5	415.6
37.5°	328.4	335.5	353.1	365.5	392.4	403.5	420.5	429.4	427.8	416.7	400.3
38°	314.5	321.6	338.5	352.0	377.1	388.9	404.9	414.2	412.0	401.2	384.9
38.5°	301.4	308.8	323.7	338.6	360.9	374.0	389.6	398.9	396.6	385.8	369.8
39°	288.8	296.2	310.2	325.1	345.8	359.6	374.5	383.7	381.5	370.9	355.1
39.5°	276.3	283.3	296.7	310.7	330.4	344.9	359.7	368.9	366.5	355.8	340.7
40°	264.1	270.5	283.2	296.3	316.1	330.9	344.9	353.8	351.2	341.1	326.1
40.5°	252.0	258.6	270.2	282.5	301.0	316.4	330.6	339.1	336.3	326.4	312.7
41°	240.4	246.5	257.1	268.8	287.3	302.6	316.7	325.1	321.5	311.3	298.5
41.5°	229.1	235.5	244.4	255.7	273.4	288.8	302.7	311.0	306.9	296.9	284.9
42°	218.2	224.3	232.1	242.9	260.2	275.5	289.2	297.1	292.2	282.8	271.3
42.5°	207.2	213.4	220.3	230.4	247.2	262.1	275.9	283.0	278.1	268.9	258.0
43°	196.7	202.7	208.5	218.1	234.5	249.2	262.6	269.6	264.2	255.7	244.7
43.5°	186.6	192.6	197.4	205.7	221.8	236.5	249.7	256.5	250.6	242.1	231.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	158.0	163.6	166.1	170.7	186.9	200.9	213.0	216.9	212.1	204.5	194.0
45.5°	149.3	154.6	156.4	160.1	176.4	189.4	201.3	204.2	200.0	192.8	182.1
46°	140.7	146.0	147.1	149.4	165.9	178.6	190.3	192.3	188.4	181.1	170.8
46.5°	132.4	137.7	137.9	139.5	156.0	168.2	179.0	180.0	177.0	169.7	159.8
47°	124.2	129.3	129.3	130.3	146.5	157.9	168.2	168.7	165.8	159.2	149.1
47.5°	116.9	121.6	121.1	121.6	137.3	148.1	157.5	157.6	155.0	149.0	139.1
48°	109.5	114.2	113.4	113.5	128.6	138.8	147.5	147.2	144.7	138.3	129.5
48.5°	102.5	107.1	106.1	106.2	120.4	130.0	137.5	136.9	134.8	128.7	120.3
49°	95.7	100.1	99.0	99.4	112.6	121.4	127.9	127.3	125.3	119.6	111.4
49.5°	89.3	93.5	92.5	92.9	105.1	113.2	118.8	118.4	116.0	110.8	104.0
50°	83.1	87.1	86.4	87.0	98.9	105.6	110.0	109.8	107.6	103.4	96.6
50.5°	77.2	81.0	80.6	81.4	92.5	98.9	102.7	102.5	100.3	96.1	89.3
51°	71.6	75.2	75.2	76.1	86.2	92.1	95.3	95.1	93.0	88.6	81.9
51.5°	66.1	69.6	69.8	71.0	79.8	85.5	88.0	87.9	85.6	81.3	74.5
52°	61.1	64.4	64.8	66.2	73.5	78.8	80.6	80.5	78.3	73.9	68.2
52.5°	56.2	59.4	60.0	61.4	68.0	72.1	73.3	73.3	71.0	67.3	62.4
53°	51.6	54.5	55.3	56.8	62.7	66.4	67.3	67.2	65.0	61.5	57.1
53.5°	47.2	49.9	51.0	52.5	57.9	61.0	61.7	61.3	59.5	56.2	51.9
54°	43.2	45.6	46.8	48.2	53.2	55.7	56.5	56.0	54.3	51.3	47.3
54.5°	39.7	41.8	42.9	44.3	48.6	50.8	51.5	51.0	49.3	46.5	43.0
55°	36.5	38.2	39.2	40.5	44.5	46.3	46.8	46.5	45.0	42.3	39.3
55.5°	33.4	35.1	36.0	37.3	40.5	42.0	42.5	42.3	40.9	38.7	35.8
56°	30.2	32.0	32.8	34.0	36.9	38.2	38.7	38.5	37.3	35.3	32.2
56.5°	27.0	28.9	29.6	30.7	33.5	34.7	35.2	34.9	33.8	31.6	28.8
57°	23.8	25.7	26.4	27.4	30.0	31.1	31.7	31.2	30.4	28.4	25.7
57.5°	21.4	22.6	23.2	24.1	26.7	27.7	28.2	28.0	27.1	25.3	22.9
58°	19.4	20.4	20.9	21.5	23.8	24.6	25.1	25.0	24.2	22.6	20.5
58.5°	17.6	18.4	18.8	19.2	21.2	22.0	22.3	22.3	21.6	20.3	18.3
59°	16.0	16.7	17.0	17.3	18.9	19.4	19.8	19.8	19.3	18.2	16.5
59.5°	14.6	15.2	15.2	15.6	16.8	17.4	17.7	17.7	17.3	16.3	14.8
60°	13.3	13.9	14.0	14.1	15.1	15.6	15.8	15.9	15.6	14.7	13.4
60.5°	12.2	12.7	12.7	12.7	13.6	14.0	14.2	14.4	14.1	13.4	12.3
61°	11.1	11.6	11.6	11.5	12.4	12.7	12.8	13.0	12.7	12.2	11.1
61.5°	10.2	10.7	10.7	10.6	11.2	11.5	11.6	11.8	11.5	11.1	10.2
62°	9.4	9.8	9.7	9.7	10.2	10.5	10.6	10.8	10.6	10.1	9.5
62.5°	8.7	9.1	9.0	8.9	9.5	9.7	9.7	9.8	9.6	9.4	8.9
63°	8.0	8.4	8.3	8.1	8.7	9.0	9.1	9.2	9.0	8.7	8.1
63.5°	7.4	7.8	7.6	7.5	8.0	8.2	8.3	8.4	8.3	8.0	7.5
64°	6.8	7.1	7.0	6.9	7.4	7.5	7.7	7.8	7.7	7.4	6.7
64.5°	6.3	6.6	6.5	6.4	6.6	6.7	7.0	7.1	7.0	6.6	6.2
65°	5.9	6.2	6.1	5.9	6.1	6.2	6.3	6.4	6.3	6.2	5.8
65.5°	5.4	5.7	5.7	5.4	5.7	5.8	5.9	6.0	5.9	5.8	5.3
66°	5.0	5.3	5.2	5.1	5.2	5.3	5.4	5.5	5.4	5.3	5.0



TEST NUMBER: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	4.1	4.3	4.2	4.1	4.2	4.3	4.4	4.4	4.4	4.3	3.9
68°	3.7	3.9	3.9	3.8	3.8	3.9	4.1	4.1	4.1	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°	3.0	3.2	3.2	3.1	3.2	3.2	3.3	3.3	3.3	3.2	3.0
70°	2.8	3.0	3.0	2.9	2.9	3.0	3.1	3.1	3.1	3.0	2.8
70.5°	2.6	2.8	2.8	2.7	2.8	2.8	2.9	2.9	2.9	2.8	2.6
71°	2.5	2.6	2.6	2.5	2.6	2.6	2.7	2.7	2.7	2.6	2.5
71.5°	2.2	2.3	2.3	2.3	2.3	2.3	2.5	2.5	2.5	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°	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.1	1.1	1.1
77°	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.0	1.0
77.5°	0.7	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9
78°	0.7	0.7	0.9	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.7
78.5°	0.6	0.7	0.7	0.7	0.9	0.9	0.9	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: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

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: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1019.1	1019.1	1019.1	1019.1	1019.1	1019.1
0.5°	1018.9	1018.8	1018.9	1018.7	1018.5	1017.9
1°	1018.7	1018.2	1017.9	1017.6	1017.4	1017.1
1.5°	1018.2	1017.3	1016.8	1016.5	1016.3	1015.9
2°	1017.4	1016.2	1015.6	1015.2	1015.0	1014.6
2.5°	1016.3	1015.0	1013.9	1013.3	1013.2	1013.0
3°	1015.3	1013.4	1012.2	1011.3	1011.1	1011.2
3.5°	1014.0	1011.7	1010.1	1009.2	1009.0	1009.1
4°	1012.4	1009.6	1007.8	1006.6	1006.5	1006.9
4.5°	1010.6	1007.5	1005.4	1004.2	1003.9	1004.4
5°	1008.6	1005.0	1002.7	1001.3	1000.9	1001.5
5.5°	1006.2	1002.4	999.5	998.2	997.9	998.5
6°	1003.8	999.5	996.4	994.7	994.5	995.0
6.5°	1001.0	996.2	993.0	991.3	990.9	991.6
7°	997.9	992.8	989.2	987.3	986.7	987.7
7.5°	994.5	989.1	985.2	983.2	982.5	983.5
8°	991.0	985.0	981.1	978.7	978.1	979.0
8.5°	987.0	980.5	976.4	974.0	973.3	974.2
9°	982.9	975.8	971.5	968.8	967.9	969.0
9.5°	978.3	970.9	966.3	963.1	962.5	963.7
10°	973.6	965.6	960.6	957.5	956.4	957.8
10.5°	968.5	959.8	954.6	951.3	950.3	951.4
11°	963.0	954.0	948.3	944.5	943.2	945.0
11.5°	957.4	947.8	941.4	937.2	936.3	937.8
12°	951.6	941.1	934.2	929.8	928.6	930.2
12.5°	945.2	934.1	926.8	922.0	920.5	922.4
13°	938.8	927.0	919.1	913.9	912.3	914.4
13.5°	932.0	919.7	911.4	905.6	904.1	906.0
14°	925.1	912.2	903.1	897.2	895.4	897.2
14.5°	917.6	904.4	895.1	888.9	886.8	888.6
15°	910.6	896.5	886.4	880.1	877.7	879.7
15.5°	902.9	888.4	878.3	871.4	868.9	870.8
16°	895.3	880.4	869.6	862.5	860.0	862.0
16.5°	887.4	872.4	861.7	853.8	851.4	853.0
17°	879.7	863.9	853.1	844.8	842.5	844.3
17.5°	871.8	856.0	844.7	836.3	833.6	835.4
18°	863.6	847.7	836.0	827.6	824.9	826.6
18.5°	855.6	839.4	828.0	819.2	816.5	817.8
19°	847.9	831.3	819.9	811.4	808.4	809.7
19.5°	840.1	823.8	812.0	803.5	800.3	801.5
20°	832.5	815.8	804.0	795.5	792.3	793.9
20.5°	824.5	807.8	796.0	787.6	784.2	785.8
21°	817.2	799.7	787.4	778.9	776.1	777.9



TEST NUMBER: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	792.8	773.2	758.8	750.4	747.6	749.5
23°	784.6	763.1	748.4	739.2	736.9	739.2
23.5°	776.3	753.1	737.3	727.6	725.4	727.7
24°	768.1	742.2	725.7	715.3	713.0	715.4
24.5°	758.2	731.0	713.8	701.9	699.9	702.5
25°	747.9	719.3	701.8	688.0	686.6	689.8
25.5°	736.7	707.3	689.3	673.6	672.1	676.1
26°	725.3	695.3	676.5	659.1	657.9	662.7
26.5°	712.5	682.8	663.1	645.0	642.9	648.8
27°	699.4	670.1	649.4	631.2	627.8	635.1
27.5°	685.1	656.6	635.3	617.3	612.7	620.8
28°	670.5	642.7	620.8	603.9	598.1	606.8
28.5°	655.0	628.4	606.0	590.7	583.3	591.9
29°	638.9	613.4	591.2	577.3	569.5	577.2
29.5°	622.5	598.0	576.2	563.7	554.9	562.2
30°	606.5	582.1	561.3	549.9	541.1	546.8
30.5°	590.0	566.2	546.3	535.3	527.3	531.0
31°	574.4	550.0	532.2	520.6	513.2	515.7
31.5°	559.2	533.5	517.5	505.2	499.0	500.4
32°	544.2	517.2	503.0	489.5	484.7	485.3
32.5°	529.4	500.7	488.4	473.9	470.1	470.9
33°	514.1	484.0	473.4	458.7	455.3	456.5
33.5°	499.2	467.3	457.8	443.7	440.6	441.8
34°	484.1	451.5	442.6	428.8	425.8	427.4
34.5°	469.0	435.7	427.0	413.9	410.5	412.8
35°	453.5	420.1	411.4	399.9	396.2	398.0
35.5°	438.1	405.5	395.5	386.2	381.9	384.3
36°	422.5	390.9	378.1	372.2	368.4	370.5
36.5°	407.0	376.6	363.4	358.2	355.0	356.4
37°	391.6	362.3	348.6	344.1	341.6	342.4
37.5°	376.4	348.2	333.9	330.1	328.2	328.4
38°	361.7	333.9	319.1	316.1	314.8	314.5
38.5°	347.3	319.7	304.4	302.0	301.7	301.4
39°	333.0	305.8	290.9	288.2	288.7	288.8
39.5°	319.2	292.1	277.1	274.5	275.1	276.3
40°	305.3	278.9	263.6	260.9	262.0	264.1
40.5°	291.8	265.6	250.6	247.7	249.3	252.0
41°	278.4	252.5	237.9	234.7	236.9	240.4
41.5°	265.3	239.7	225.3	222.2	224.8	229.1
42°	252.3	227.7	213.4	210.1	212.7	218.2
42.5°	239.8	215.4	201.9	198.1	201.4	207.2
43°	227.6	203.8	190.7	186.5	190.2	196.7
43.5°	215.5	192.4	179.8	175.0	179.5	186.6



TEST NUMBER: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	181.4	160.7	149.7	144.0	149.2	158.0
45.5°	170.7	150.8	140.7	134.6	139.8	149.3
46°	160.2	141.4	131.9	125.6	130.8	140.7
46.5°	149.8	132.4	123.4	117.2	122.4	132.4
47°	139.9	123.8	115.5	109.6	114.5	124.2
47.5°	130.1	115.3	107.9	102.6	107.0	116.9
48°	120.8	107.5	100.8	95.8	100.0	109.5
48.5°	112.3	100.1	93.9	89.5	93.4	102.5
49°	103.9	93.0	87.3	83.5	87.1	95.7
49.5°	96.6	86.3	81.2	78.2	81.6	89.3
50°	89.4	79.7	75.3	72.9	75.9	83.1
50.5°	82.1	73.5	69.6	67.8	70.8	77.2
51°	74.9	67.7	64.3	63.0	65.8	71.6
51.5°	68.8	62.2	59.3	58.5	61.0	66.1
52°	63.1	57.1	54.5	54.2	56.4	61.1
52.5°	57.6	51.9	50.0	49.9	52.1	56.2
53°	52.7	47.2	45.7	45.7	48.0	51.6
53.5°	48.0	43.0	41.8	42.0	44.0	47.2
54°	43.6	39.1	38.1	38.5	40.3	43.2
54.5°	39.8	35.9	35.0	35.4	37.3	39.7
55°	36.3	32.7	31.9	32.3	34.1	36.5
55.5°	32.7	29.4	28.7	29.2	30.9	33.4
56°	29.2	26.2	25.6	26.1	27.7	30.2
56.5°	26.1	23.0	22.5	23.0	24.5	27.0
57°	23.2	20.5	20.0	20.6	22.0	23.8
57.5°	20.7	18.3	18.0	18.6	19.8	21.4
58°	18.4	16.5	16.2	16.7	18.0	19.4
58.5°	16.6	14.8	14.7	15.1	16.3	17.6
59°	14.9	13.4	13.3	13.9	14.9	16.0
59.5°	13.5	12.2	12.0	12.6	13.5	14.6
60°	12.3	11.1	11.0	11.5	12.5	13.3
60.5°	11.2	10.1	10.0	10.6	11.4	12.2
61°	10.2	9.3	9.2	9.7	10.5	11.1
61.5°	9.5	8.5	8.4	9.0	9.7	10.2
62°	8.7	7.8	7.8	8.2	9.0	9.4
62.5°	8.1	7.1	7.1	7.6	8.2	8.7
63°	7.4	6.6	6.6	7.0	7.6	8.0
63.5°	6.7	6.1	6.2	6.5	7.0	7.4
64°	6.2	5.7	5.7	6.0	6.5	6.8
64.5°	5.8	5.2	5.2	5.5	6.0	6.3
65°	5.3	4.9	4.9	5.1	5.5	5.9
65.5°	4.9	4.5	4.6	4.8	5.2	5.4
66°	4.6	4.2	4.3	4.5	4.8	5.0



TEST NUMBER: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	3.6	3.4	3.4	3.6	3.8	4.1
68°	3.4	3.2	3.2	3.4	3.6	3.7
68.5°	3.2	3.0	3.0	3.1	3.3	3.5
69°	3.0	2.8	2.8	2.9	3.1	3.3
69.5°	2.8	2.6	2.6	2.7	2.9	3.0
70°	2.6	2.3	2.3	2.6	2.7	2.8
70.5°	2.5	2.2	2.2	2.3	2.5	2.6
71°	2.2	2.0	2.0	2.1	2.2	2.5
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	1.0	1.0	1.0	1.0	1.1
76.5°	1.0	0.9	0.9	0.9	0.9	1.0
77°	0.9	0.7	0.7	0.7	0.9	0.9
77.5°	0.9	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: P775674

CATALOG NUMBER: HCDJBL510CSD-HCD4TRH-1000lm-5000K

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°	769.1	774.6	782.7	793.2	810.9	823.1	832.3	836.2	835.5	830.4	821.3
22°	759.9	766.3	774.5	785.4	802.7	815.4	824.4	828.7	827.8	822.5	813.4



44°	176.7	182.5	186.6	193.9	209.9	224.3	237.2	242.9	237.5	228.9	218.8
44.5°	167.3	172.9	176.2	182.1	198.3	212.1	224.9	229.6	224.6	216.8	206.3



66.5°	4.7	4.9	4.9	4.7	4.8	4.9	5.0	5.1	5.0	4.9	4.6
67°	4.4	4.6	4.5	4.4	4.5	4.6	4.7	4.7	4.7	4.6	4.3



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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Scaled Data Report





21.5°	809.4	791.2	778.4	769.6	767.4	769.1
22°	801.1	782.3	768.8	760.3	757.8	759.9



44°	203.9	181.5	169.4	164.4	169.1	176.7
44.5°	192.7	170.9	159.3	154.0	159.1	167.3



66.5°	4.3	3.9	3.9	4.2	4.5	4.7
67°	3.9	3.6	3.7	3.9	4.2	4.4

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Scaled Data Report



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

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Scaled Data Report



(END OF REPORT)