

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: P775691

Luminaire Tested: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775691
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-HCD4TSQC-1000lm-3000K
Description: 4 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

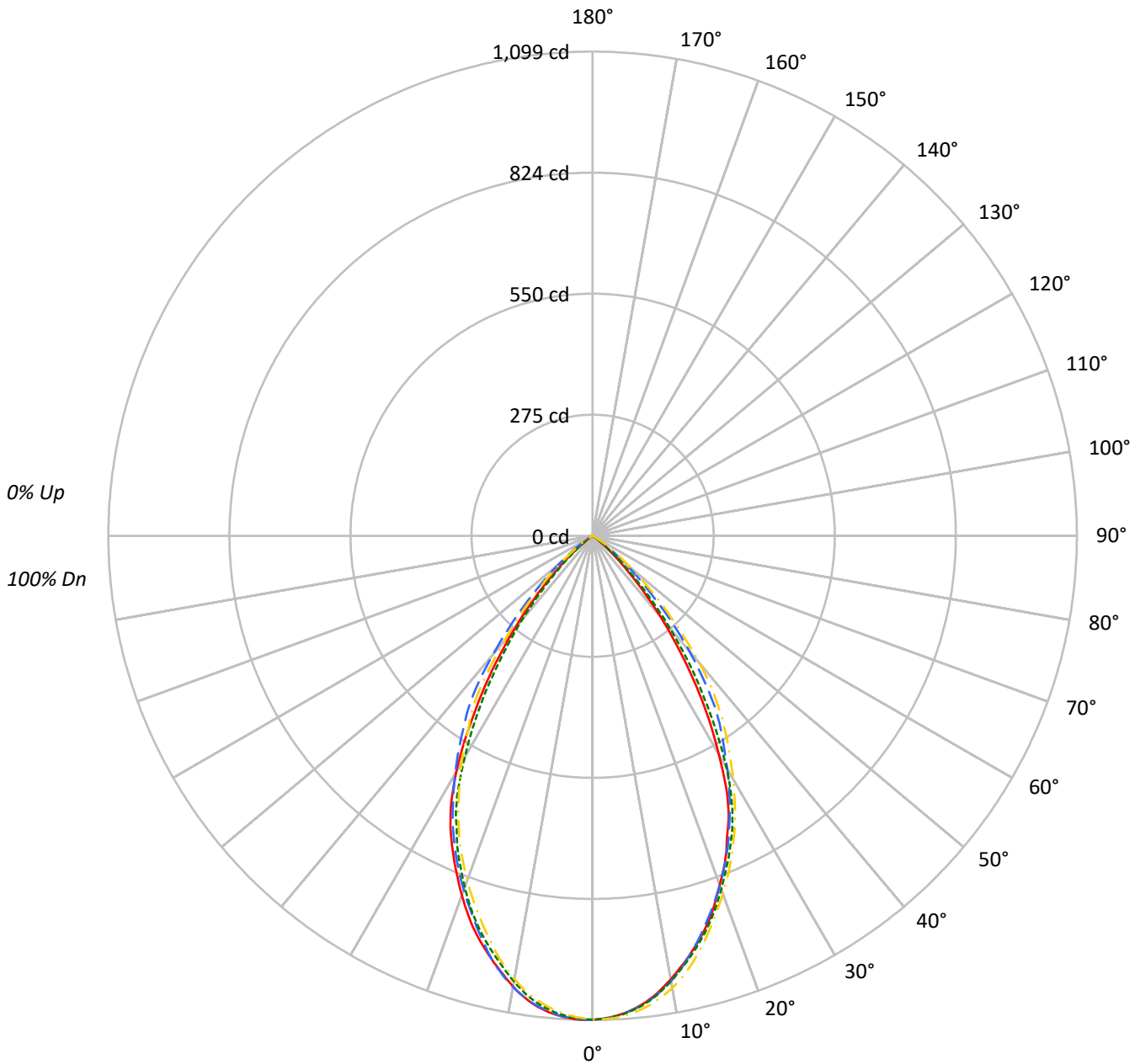
Lumens per Lamp: N/A
Luminaire Lumens: 1135.9 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 0.93 / 0.98
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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					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			
1	113	110	108	105	111	108	106	104	104	102	101	100	99	98	97	96	95	93					93			
2	107	102	98	94	105	100	96	93	97	94	91	94	91	89	91	89	87	86					86			
3	101	95	89	85	99	93	88	84	90	86	83	88	85	82	86	83	80	79					79			
4	96	88	82	77	94	87	81	77	84	80	76	82	78	75	80	77	74	73					73			
5	90	82	75	71	89	81	75	70	79	74	70	77	73	69	75	72	69	67					67			
6	85	76	70	65	84	75	69	65	74	68	64	72	68	64	71	67	64	62					62			
7	81	71	65	60	79	70	64	60	69	64	60	68	63	59	67	62	59	57					57			
8	77	66	60	56	75	66	60	56	65	59	55	64	59	55	63	58	55	53					53			
9	73	62	56	52	71	62	56	52	61	55	52	60	55	51	59	55	51	50					50			
10	69	59	53	48	68	58	52	48	57	52	48	57	52	48	56	51	48	47					47			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	108548	108548	108548	108548
5°	106979	107157	107872	107336
10°	102575	103007	104291	103117
15°	96660	97172	98563	96916
20°	88766	89786	91291	89261
25°	79330	81457	82733	79647
30°	65467	69359	70660	66220
35°	48169	52103	53092	49303
40°	30825	34864	35548	32051
45°	15586	19067	19654	16746
50°	5474	7304	7765	6212
55°	1017	1327	1499	1482
60°	376	356	316	435
65°	304	281	257	327
70°	231	231	202	260
75°	191	191	153	229
80°	114	114	114	171
85°	113	113	0	113

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°
 Vertical Angle: 45°
 Luminance: 31689 cd/sqm



TEST NUMBER: P775691
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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.7	8.9
10°-20°	265.9	23.4
20°-30°	337.7	29.7
30°-40°	279.2	24.6
40°-50°	127.8	11.2
50°-60°	21.5	1.9
60°-70°	1.5	0.1
70°-80°	0.6	0.0
80°-90°	0.1	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°	705.2	62.1
0°-40°	984.5	86.7
0°-60°	1133.7	99.8
0°-90°	1135.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1135.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1098	1098	1098	1098	1098	
5°	1078	1080	1087	1082	1078	101
15°	945	950	963	947	945	264
25°	727	747	759	730	727	330
35°	399	432	440	409	399	248
45°	112	136	141	120	112	91
55°	6	8	9	9	6	10
65°	1	1	1	1	1	1
75°	0	0	0	1	0	1
85°	0	0	0	0	0	0
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°	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2
0.5°	1098.0	1098.1	1098.1	1097.6	1098.0	1098.0	1098.0	1098.4	1099.0	1099.1	1098.9
1°	1096.8	1097.1	1097.2	1096.9	1097.5	1097.7	1098.0	1098.4	1099.0	1099.0	1098.7
1.5°	1095.7	1095.9	1096.1	1096.0	1096.4	1096.8	1097.6	1098.0	1098.7	1098.9	1098.2
2°	1094.0	1094.3	1094.6	1094.5	1095.1	1096.0	1096.8	1097.2	1098.1	1098.4	1097.6
2.5°	1092.0	1092.4	1092.8	1092.8	1093.4	1094.6	1096.0	1096.1	1096.9	1097.2	1096.7
3°	1090.1	1090.3	1090.5	1090.7	1091.4	1092.9	1094.6	1094.8	1095.7	1095.8	1095.1
3.5°	1087.7	1087.8	1088.1	1088.4	1089.1	1091.0	1093.1	1092.8	1094.1	1094.2	1093.3
4°	1085.0	1085.0	1085.2	1085.7	1086.4	1088.7	1090.9	1090.8	1092.1	1092.1	1091.1
4.5°	1081.7	1081.9	1082.3	1082.9	1083.6	1086.2	1088.6	1088.4	1090.0	1089.9	1088.7
5°	1078.2	1078.3	1079.0	1079.6	1080.0	1083.3	1086.0	1085.7	1087.2	1087.5	1085.8
5.5°	1074.2	1074.4	1075.3	1076.0	1076.5	1079.9	1083.2	1082.8	1084.3	1084.5	1082.9
6°	1069.8	1070.0	1071.3	1071.9	1072.5	1076.4	1079.7	1079.3	1081.0	1081.1	1079.4
6.5°	1065.2	1065.3	1066.8	1067.8	1068.1	1072.3	1076.2	1075.6	1077.6	1077.6	1076.0
7°	1060.0	1060.2	1062.0	1063.2	1063.4	1067.9	1072.5	1071.5	1073.5	1073.6	1071.9
7.5°	1054.7	1054.7	1057.0	1058.2	1058.0	1063.1	1068.2	1067.2	1068.8	1069.3	1067.7
8°	1048.9	1049.0	1051.2	1052.9	1052.3	1057.8	1063.6	1062.2	1063.7	1064.2	1062.9
8.5°	1042.7	1043.1	1045.6	1047.0	1046.1	1052.1	1058.7	1057.0	1058.2	1059.2	1057.7
9°	1035.6	1036.4	1039.3	1040.7	1039.8	1046.2	1053.4	1051.2	1052.0	1053.4	1052.4
9.5°	1028.7	1029.6	1032.9	1034.3	1033.2	1039.9	1047.9	1045.0	1045.8	1047.2	1046.6
10°	1022.0	1022.4	1025.9	1027.5	1026.3	1033.6	1041.9	1038.6	1039.1	1040.7	1040.1
10.5°	1014.7	1015.2	1018.9	1020.3	1019.2	1027.0	1035.5	1031.5	1032.0	1033.9	1033.5
11°	1007.4	1008.0	1011.4	1013.1	1012.0	1019.7	1028.5	1024.4	1024.5	1026.9	1026.6
11.5°	999.9	1000.5	1003.4	1005.3	1004.4	1012.5	1021.7	1016.6	1016.6	1019.4	1019.3
12°	992.6	992.9	995.2	997.2	996.8	1005.2	1014.3	1008.9	1009.1	1011.3	1011.1
12.5°	985.1	985.1	986.2	989.4	989.4	997.6	1006.2	1000.7	1001.9	1003.6	1003.5
13°	977.1	977.3	977.7	981.1	981.9	990.1	998.1	992.4	994.6	995.8	994.6
13.5°	969.2	969.2	969.0	972.6	974.0	982.4	990.1	984.4	986.8	987.4	985.5
14°	961.1	960.9	959.8	964.4	965.9	974.6	980.7	976.2	979.0	979.3	976.0
14.5°	952.8	952.5	950.6	955.8	957.8	966.6	971.7	968.0	971.1	971.2	966.6
15°	944.6	944.2	941.6	947.4	949.6	958.5	962.6	959.7	963.2	963.0	956.3
15.5°	936.2	935.5	931.8	938.7	941.2	950.1	953.1	950.9	954.7	954.4	946.2
16°	927.1	926.2	922.4	929.5	932.5	941.5	943.1	942.3	946.5	946.0	935.9
16.5°	918.2	917.7	912.7	920.3	923.7	933.3	933.4	933.5	937.7	937.1	926.1
17°	908.8	908.7	903.1	911.1	914.5	924.0	923.4	924.5	928.7	928.2	915.7
17.5°	898.9	899.2	893.4	901.7	904.8	915.0	913.5	915.1	919.1	919.2	905.7
18°	888.1	888.7	883.6	892.2	894.8	905.6	903.8	905.5	909.2	909.9	895.4
18.5°	877.0	879.0	873.8	882.1	884.8	896.1	894.1	895.5	899.1	899.9	885.5
19°	865.7	867.9	863.8	871.8	874.6	885.7	884.2	885.4	889.1	889.8	875.6
19.5°	855.0	856.6	853.6	861.1	864.2	875.9	874.4	875.3	878.7	879.3	865.6
20°	843.9	845.4	843.7	850.7	853.6	865.2	864.4	864.4	867.9	868.8	855.4
20.5°	833.0	834.3	833.7	839.8	842.8	854.6	854.3	853.6	857.1	857.9	845.1
21°	822.4	823.0	823.3	828.9	831.9	843.7	844.1	842.6	846.3	847.0	834.5



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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°	789.3	789.8	791.6	795.3	801.0	810.3	813.1	808.8	814.0	813.3	803.1
23°	776.4	778.7	780.5	784.0	790.5	799.1	802.6	797.2	803.4	802.0	792.2
23.5°	762.8	767.0	769.0	771.8	779.6	788.4	792.0	785.7	792.5	790.6	781.8
24°	749.9	754.4	757.4	761.0	768.6	776.6	781.1	774.2	781.1	779.1	770.3
24.5°	738.6	741.1	745.5	750.2	757.8	764.9	769.7	762.7	769.9	767.5	758.6
25°	727.4	727.2	733.4	739.2	746.9	753.1	758.2	751.2	758.6	755.9	747.1
25.5°	716.3	714.6	721.3	726.6	736.0	741.3	746.8	739.7	747.5	744.4	735.6
26°	704.6	703.0	709.3	714.0	723.6	729.6	735.4	728.2	736.3	732.8	724.6
26.5°	690.0	691.9	697.2	701.3	710.7	718.8	724.3	715.0	723.1	719.6	712.2
27°	675.9	680.5	685.4	690.1	698.1	707.9	711.9	703.1	710.5	708.3	699.7
27.5°	661.4	668.6	673.3	679.4	684.1	696.2	699.7	692.1	696.8	696.2	687.1
28°	643.9	653.6	661.6	668.5	670.2	682.5	686.8	680.2	682.6	682.6	674.0
28.5°	626.0	639.3	649.2	655.5	655.2	669.5	674.5	667.1	667.3	670.0	661.4
29°	608.4	625.1	637.0	642.7	640.1	655.9	662.0	654.8	651.9	656.1	648.6
29.5°	591.1	608.5	624.0	630.1	624.2	641.6	649.7	641.2	635.5	641.6	636.0
30°	573.6	591.2	611.2	616.7	607.7	626.8	637.7	627.1	619.1	626.9	623.2
30.5°	556.2	573.7	597.8	602.5	590.2	611.3	625.4	612.8	601.8	611.6	610.9
31°	538.8	556.6	585.2	587.9	572.7	596.0	612.5	598.0	583.5	596.2	598.7
31.5°	521.8	539.5	572.7	573.1	554.6	580.0	599.5	582.9	565.4	579.9	586.6
32°	504.9	523.0	561.6	557.9	536.5	563.6	586.5	567.0	547.3	563.5	573.8
32.5°	487.8	506.2	550.2	542.0	518.0	546.8	574.9	550.7	528.5	546.6	560.4
33°	470.1	489.6	538.9	526.0	500.4	529.1	563.4	534.1	510.6	529.5	547.8
33.5°	452.7	473.5	527.3	509.3	482.3	511.7	552.0	517.2	491.7	511.7	535.9
34°	435.2	457.1	515.2	492.5	465.1	494.2	539.7	499.7	474.3	493.5	523.6
34.5°	417.3	440.6	502.4	475.5	448.0	476.9	526.6	482.3	456.8	476.0	511.4
35°	399.2	423.9	491.2	458.5	431.8	459.8	515.5	465.6	440.0	459.4	500.5
35.5°	381.4	407.0	478.3	441.5	415.1	443.2	504.5	448.5	422.4	441.9	489.4
36°	363.2	390.2	463.0	424.8	398.9	426.9	491.1	431.9	405.9	425.2	476.1
36.5°	347.2	373.2	448.0	408.8	382.9	410.9	477.9	415.6	389.2	408.4	461.7
37°	331.2	357.4	433.4	392.9	366.4	395.0	465.4	399.3	373.1	393.2	448.6
37.5°	315.1	341.6	417.8	377.2	349.6	379.5	451.3	383.7	356.3	377.1	433.6
38°	299.0	325.7	402.3	360.7	333.4	364.2	437.2	368.3	339.2	361.9	417.9
38.5°	283.7	309.8	386.9	346.3	317.2	348.8	423.2	353.2	322.8	346.6	401.9
39°	268.7	294.1	371.7	331.7	301.3	334.3	407.9	338.1	307.2	331.5	385.6
39.5°	253.5	279.4	356.4	317.2	285.5	318.8	392.6	322.7	291.0	316.2	369.0
40°	238.9	265.1	341.2	302.7	270.2	303.6	377.4	307.8	275.5	301.4	352.9
40.5°	224.0	250.6	325.9	288.2	255.4	288.5	361.7	293.0	260.2	286.5	336.8
41°	209.6	237.1	310.7	273.9	241.0	274.2	345.7	278.3	246.0	272.0	321.1
41.5°	195.5	223.2	295.5	259.9	227.1	259.7	329.5	263.8	231.6	257.3	305.5
42°	181.9	209.9	280.3	245.8	213.0	245.9	313.5	249.9	217.9	243.6	290.3
42.5°	168.7	196.9	265.4	232.9	199.8	232.1	298.1	236.5	204.2	230.3	275.4
43°	156.3	183.9	250.4	220.0	186.3	219.6	282.8	223.4	190.5	217.1	261.2
43.5°	144.4	171.0	235.5	207.6	173.3	206.3	268.1	210.7	177.6	204.3	247.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	111.5	136.5	194.6	172.3	136.4	170.1	226.7	174.6	140.6	168.6	207.1
45.5°	101.3	125.7	182.3	161.1	125.2	158.4	213.6	163.3	129.3	157.4	194.5
46°	91.8	115.9	170.0	150.0	114.5	147.2	201.1	152.4	118.5	146.3	182.1
46.5°	82.8	106.4	158.7	139.4	104.4	136.3	188.9	141.3	108.2	135.6	169.9
47°	74.1	96.9	147.6	128.9	95.4	125.9	177.4	130.9	99.4	125.5	158.4
47.5°	66.1	88.1	137.0	119.1	86.4	115.6	165.6	121.1	90.6	115.7	147.3
48°	58.8	79.6	126.5	109.7	77.6	106.2	154.7	111.3	81.8	106.3	136.6
48.5°	52.0	71.6	116.7	100.6	68.7	98.0	143.8	102.3	73.2	98.3	126.5
49°	46.0	64.0	107.3	92.3	61.0	89.6	133.6	94.2	64.4	90.2	117.0
49.5°	40.5	57.1	98.3	84.4	54.1	81.3	123.3	86.1	57.3	82.3	107.6
50°	35.6	50.8	89.4	76.7	47.5	73.1	113.7	78.1	50.5	74.2	99.6
50.5°	31.9	44.9	81.5	69.0	41.4	64.8	104.5	70.0	44.4	66.1	91.7
51°	28.3	39.5	73.8	62.0	36.0	58.0	96.4	62.8	38.9	59.6	83.8
51.5°	24.6	34.8	66.7	55.4	31.0	51.6	88.3	56.1	33.7	53.3	75.8
52°	20.9	31.2	60.0	49.3	26.5	45.8	80.1	49.8	28.8	47.4	68.0
52.5°	18.1	27.7	54.0	43.5	22.3	40.1	71.9	44.1	24.4	41.7	61.3
53°	15.4	24.0	47.9	38.0	18.7	34.9	65.0	38.5	20.5	36.5	55.1
53.5°	12.9	20.5	42.9	33.7	15.3	30.2	58.6	33.5	16.9	31.6	49.4
54°	10.5	17.8	37.8	29.4	12.8	25.8	52.2	28.7	14.2	27.1	43.9
54.5°	8.1	15.2	33.9	25.2	10.2	21.8	46.3	24.5	11.4	23.3	38.9
55°	5.9	12.9	30.2	20.9	7.7	18.4	41.0	20.5	8.7	19.5	34.3
55.5°	4.3	10.5	26.4	16.7	5.2	14.9	35.9	16.9	5.9	16.1	30.1
56°	3.9	8.2	22.7	13.6	2.7	12.5	31.2	14.2	3.2	13.5	26.3
56.5°	3.5	6.1	18.9	10.7	2.4	9.9	26.8	11.5	2.2	10.8	22.8
57°	3.1	4.3	15.9	8.2	2.3	7.4	23.0	8.9	2.1	8.3	19.6
57.5°	2.7	3.8	13.6	5.6	2.2	5.0	19.4	6.2	2.0	5.6	16.8
58°	2.2	3.4	11.4	3.7	2.1	2.4	16.2	3.6	1.9	3.0	14.4
58.5°	2.1	3.0	9.6	3.3	2.0	2.1	13.6	2.1	1.8	2.1	12.1
59°	2.0	2.6	8.0	2.9	1.9	2.0	11.8	1.9	1.7	1.9	10.7
59.5°	2.0	2.0	6.6	2.4	1.8	1.9	10.1	1.8	1.6	1.9	9.3
60°	1.9	1.9	5.6	1.9	1.8	1.8	8.5	1.7	1.6	1.8	7.8
60.5°	1.8	1.9	4.7	1.9	1.7	1.8	6.7	1.7	1.5	1.7	6.3
61°	1.7	1.8	3.9	1.8	1.6	1.7	5.0	1.6	1.5	1.6	4.9
61.5°	1.7	1.7	3.4	1.7	1.6	1.6	4.1	1.5	1.4	1.6	4.0
62°	1.6	1.7	2.9	1.6	1.5	1.6	3.4	1.5	1.3	1.5	3.4
62.5°	1.5	1.6	2.3	1.6	1.5	1.5	2.8	1.4	1.3	1.5	2.8
63°	1.5	1.5	1.8	1.5	1.4	1.4	2.2	1.4	1.2	1.4	2.2
63.5°	1.4	1.5	1.6	1.5	1.3	1.4	1.8	1.3	1.2	1.3	1.9
64°	1.4	1.4	1.5	1.4	1.3	1.3	1.5	1.3	1.2	1.3	1.6
64.5°	1.3	1.4	1.4	1.4	1.2	1.3	1.4	1.2	1.1	1.2	1.4
65°	1.3	1.3	1.4	1.3	1.2	1.2	1.3	1.2	1.1	1.2	1.4
65.5°	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.0	1.2	1.3
66°	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.1	1.0	1.1	1.2



TEST NUMBER: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.0	1.1	1.1	1.1	1.0	1.0	1.1	1.0	0.9	1.0	1.1
68°	1.0	1.0	1.1	1.0	0.9	1.0	1.0	0.9	0.8	1.0	1.0
68.5°	0.9	1.0	1.0	1.0	0.9	0.9	1.0	0.9	0.8	0.9	1.0
69°	0.9	0.9	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.9	1.0
69.5°	0.9	0.9	0.9	0.9	0.8	0.9	0.9	0.8	0.7	0.8	0.9
70°	0.8	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.7	0.8	0.9
70.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.8
71°	0.7	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.8
71.5°	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.7	0.8
72°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7
72.5°	0.6	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.7
73°	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.6	0.7
73.5°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6
74°	0.5	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.6	0.6
74.5°	0.5	0.5	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.6
75°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.5
76°	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.5
76.5°	0.4	0.4	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.5
77°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4
78°	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4
78.5°	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4
79°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
79.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3
80°	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3
80.5°	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3
81°	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2
81.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2
82°	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
82.5°	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2
83°	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.2
83.5°	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1
84°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
84.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
85°	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
85.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
86°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1
86.5°	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
87°	0.0	0.0	0.0	0.0	0.0	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	0.0	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: P775691
CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1098.2	1098.2	1098.2	1098.2	1098.2	1098.2
0.5°	1098.0	1098.0	1097.4	1096.7	1097.5	1098.0
1°	1097.6	1097.5	1096.5	1095.7	1096.6	1096.8
1.5°	1096.8	1096.7	1095.6	1094.5	1095.3	1095.7
2°	1095.9	1095.6	1094.3	1092.8	1093.9	1094.0
2.5°	1094.5	1094.1	1092.5	1090.9	1092.0	1092.0
3°	1092.9	1092.4	1090.3	1088.5	1090.1	1090.1
3.5°	1091.0	1090.2	1088.0	1086.1	1087.9	1087.7
4°	1088.8	1088.0	1085.3	1083.2	1085.2	1085.0
4.5°	1086.1	1085.0	1082.2	1080.2	1082.1	1081.7
5°	1083.3	1081.8	1079.0	1076.6	1078.9	1078.2
5.5°	1079.9	1078.4	1075.2	1072.9	1075.0	1074.2
6°	1076.2	1074.5	1071.1	1069.0	1070.9	1069.8
6.5°	1072.0	1070.1	1066.7	1064.3	1066.3	1065.2
7°	1067.6	1065.3	1061.7	1059.3	1061.4	1060.0
7.5°	1062.4	1060.2	1056.6	1054.1	1056.3	1054.7
8°	1057.2	1054.5	1050.7	1048.4	1050.7	1048.9
8.5°	1051.4	1048.4	1044.6	1042.3	1045.0	1042.7
9°	1045.2	1041.5	1038.1	1036.0	1038.5	1035.6
9.5°	1038.6	1034.6	1031.1	1029.4	1031.7	1028.7
10°	1031.6	1027.4	1023.7	1021.7	1024.7	1022.0
10.5°	1024.5	1019.8	1015.9	1015.0	1017.6	1014.7
11°	1016.9	1012.2	1008.3	1007.0	1010.4	1007.4
11.5°	1009.4	1004.1	1000.2	998.6	1002.9	999.9
12°	1001.2	996.0	991.8	989.6	995.0	992.6
12.5°	993.3	988.2	983.4	980.9	987.1	985.1
13°	985.1	980.1	974.8	971.6	979.3	977.1
13.5°	976.8	972.1	966.4	962.2	971.1	969.2
14°	968.5	964.0	957.6	952.3	962.6	961.1
14.5°	960.0	955.9	949.3	942.7	954.3	952.8
15°	951.6	947.1	940.4	932.7	945.6	944.6
15.5°	943.1	938.5	931.3	922.8	936.6	936.2
16°	934.2	929.8	922.0	912.8	927.7	927.1
16.5°	925.1	920.8	912.9	902.9	918.7	918.2
17°	915.6	911.3	903.5	892.8	909.2	908.8
17.5°	906.4	901.9	893.8	882.9	899.7	898.9
18°	896.6	891.6	883.7	872.9	889.9	888.1
18.5°	886.8	881.0	873.6	862.7	879.7	877.0
19°	876.5	870.6	862.9	852.6	868.9	865.7
19.5°	865.8	859.8	852.1	842.4	857.6	855.0
20°	855.1	848.6	841.3	831.6	846.2	843.9
20.5°	843.9	837.6	829.9	821.2	834.8	833.0
21°	832.7	826.3	818.7	810.6	822.9	822.4

TEST NUMBER: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	798.5	792.5	783.4	778.4	788.0	789.3
23°	786.5	781.3	771.5	767.4	776.4	776.4
23.5°	774.8	769.8	759.6	756.2	765.1	762.8
24°	762.9	756.8	747.8	744.5	753.0	749.9
24.5°	751.1	743.1	735.8	732.1	740.3	738.6
25°	739.4	730.3	723.2	719.9	726.8	727.4
25.5°	727.5	719.2	710.2	707.6	713.2	716.3
26°	713.8	708.2	696.4	695.2	699.5	704.6
26.5°	700.1	694.7	683.4	682.2	687.5	690.0
27°	687.2	680.0	671.9	669.8	675.9	675.9
27.5°	675.3	666.6	660.3	656.7	664.6	661.4
28°	663.7	649.7	646.6	643.9	652.6	643.9
28.5°	650.6	632.4	631.7	631.4	639.1	626.0
29°	635.3	614.8	618.3	619.2	624.6	608.4
29.5°	621.8	597.4	602.1	607.0	611.1	591.1
30°	605.3	580.2	585.1	594.8	595.3	573.6
30.5°	589.0	563.2	567.6	582.1	578.9	556.2
31°	571.5	546.2	550.7	569.1	562.1	538.8
31.5°	554.6	529.1	533.9	555.0	545.1	521.8
32°	538.2	512.5	517.5	541.1	528.3	504.9
32.5°	522.1	496.0	500.8	527.9	511.8	487.8
33°	505.2	479.1	485.1	516.0	496.0	470.1
33.5°	489.5	461.8	469.2	505.8	479.8	452.7
34°	473.3	444.1	453.5	495.9	463.9	435.2
34.5°	458.0	426.4	437.1	482.8	447.7	417.3
35°	441.5	408.6	421.4	470.8	432.1	399.2
35.5°	425.8	391.2	404.8	458.4	416.1	381.4
36°	409.2	373.8	388.6	442.5	400.3	363.2
36.5°	393.6	357.6	372.1	427.5	384.1	347.2
37°	376.7	341.4	356.5	411.7	368.5	331.2
37.5°	360.2	325.2	340.8	394.6	353.0	315.1
38°	343.9	309.0	325.3	377.5	337.4	299.0
38.5°	328.1	292.9	309.8	360.1	321.9	283.7
39°	312.6	278.1	294.3	344.8	306.4	268.7
39.5°	297.7	263.4	279.7	329.6	290.8	253.5
40°	282.9	248.4	266.0	314.3	276.8	238.9
40.5°	268.8	233.4	252.1	299.1	262.7	224.0
41°	255.1	219.4	238.7	284.7	249.2	209.6
41.5°	241.7	204.4	225.3	270.7	235.5	195.5
42°	228.4	191.3	212.2	257.1	222.6	181.9
42.5°	215.1	178.1	199.2	243.9	209.7	168.7
43°	202.2	165.7	186.3	230.6	197.5	156.3
43.5°	189.6	153.0	174.0	217.8	185.0	144.4



TEST NUMBER: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	153.9	119.8	139.8	180.4	149.7	111.5
45.5°	142.9	109.2	129.4	168.9	139.0	101.3
46°	132.4	99.6	119.5	157.5	128.5	91.8
46.5°	122.3	90.2	109.9	147.0	118.7	82.8
47°	112.6	81.2	100.7	136.6	109.1	74.1
47.5°	103.4	72.7	91.6	127.0	99.7	66.1
48°	95.0	65.3	83.2	117.5	91.1	58.8
48.5°	86.6	58.1	75.2	108.9	82.7	52.0
49°	78.3	51.6	67.7	100.5	74.7	46.0
49.5°	70.0	45.8	60.7	92.8	66.9	40.5
50°	62.8	40.4	54.1	84.9	60.4	35.6
50.5°	56.0	35.5	48.1	77.8	54.0	31.9
51°	50.1	31.9	42.7	70.7	47.9	28.3
51.5°	44.4	28.4	37.9	64.4	42.1	24.6
52°	39.1	24.9	34.3	58.4	37.4	20.9
52.5°	34.4	21.3	30.7	52.6	33.7	18.1
53°	30.2	18.5	27.1	47.0	30.0	15.4
53.5°	26.5	15.8	23.6	42.1	26.3	12.9
54°	23.2	13.3	20.0	37.6	22.7	10.5
54.5°	20.2	10.9	17.5	33.9	19.0	8.1
55°	17.6	8.6	14.9	30.3	16.3	5.9
55.5°	15.0	6.3	12.6	26.6	14.0	4.3
56°	13.1	4.7	10.1	23.1	11.6	3.9
56.5°	11.1	3.4	8.0	19.4	9.5	3.5
57°	9.2	3.2	5.8	16.6	7.4	3.1
57.5°	7.2	3.0	4.2	14.3	5.5	2.7
58°	5.3	2.9	3.8	12.1	3.9	2.2
58.5°	3.4	2.7	3.4	10.2	3.5	2.1
59°	2.7	2.6	3.1	8.6	3.1	2.0
59.5°	2.4	2.4	2.7	7.1	2.6	2.0
60°	2.3	2.2	2.3	5.9	2.1	1.9
60.5°	2.2	2.1	2.2	4.9	2.0	1.8
61°	2.1	2.0	2.1	4.1	1.9	1.7
61.5°	2.0	1.9	2.0	3.6	1.8	1.7
62°	1.9	1.9	1.9	3.1	1.7	1.6
62.5°	1.8	1.8	1.8	2.6	1.7	1.5
63°	1.7	1.7	1.7	2.0	1.6	1.5
63.5°	1.6	1.6	1.6	1.7	1.5	1.4
64°	1.6	1.5	1.6	1.5	1.5	1.4
64.5°	1.5	1.5	1.5	1.5	1.4	1.3
65°	1.4	1.4	1.4	1.4	1.4	1.3
65.5°	1.4	1.4	1.4	1.4	1.3	1.2
66°	1.3	1.3	1.3	1.3	1.3	1.2



TEST NUMBER: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.2	1.1	1.2	1.1	1.1	1.0
68°	1.1	1.1	1.1	1.1	1.1	1.0
68.5°	1.1	1.0	1.1	1.0	1.0	0.9
69°	1.0	1.0	1.0	1.0	1.0	0.9
69.5°	1.0	1.0	1.0	1.0	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9	0.8
70.5°	0.9	0.9	0.9	0.9	0.9	0.8
71°	0.8	0.8	0.8	0.8	0.8	0.7
71.5°	0.8	0.8	0.8	0.8	0.8	0.7
72°	0.8	0.8	0.8	0.8	0.7	0.7
72.5°	0.7	0.7	0.7	0.7	0.7	0.6
73°	0.7	0.7	0.7	0.7	0.7	0.6
73.5°	0.7	0.7	0.7	0.7	0.6	0.6
74°	0.6	0.6	0.6	0.6	0.6	0.5
74.5°	0.6	0.6	0.6	0.6	0.6	0.5
75°	0.6	0.6	0.6	0.6	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.4
76.5°	0.5	0.5	0.5	0.5	0.5	0.4
77°	0.5	0.4	0.5	0.5	0.4	0.4
77.5°	0.4	0.4	0.4	0.4	0.4	0.4
78°	0.4	0.4	0.4	0.4	0.4	0.3
78.5°	0.4	0.4	0.4	0.4	0.3	0.3
79°	0.3	0.3	0.4	0.4	0.3	0.3
79.5°	0.3	0.3	0.3	0.3	0.3	0.3
80°	0.3	0.3	0.3	0.3	0.3	0.2
80.5°	0.3	0.3	0.3	0.3	0.2	0.2
81°	0.3	0.3	0.3	0.3	0.2	0.2
81.5°	0.2	0.2	0.2	0.2	0.2	0.2
82°	0.2	0.2	0.2	0.2	0.2	0.2
82.5°	0.2	0.2	0.2	0.2	0.1	0.1
83°	0.2	0.2	0.2	0.2	0.1	0.1
83.5°	0.2	0.2	0.2	0.2	0.1	0.1
84°	0.1	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	0.0	0.1
85.5°	0.1	0.1	0.1	0.1	0.0	0.0
86°	0.1	0.1	0.1	0.1	0.0	0.0
86.5°	0.1	0.1	0.1	0.1	0.0	0.0
87°	0.0	0.1	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: P775691

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQC-1000lm-3000K

CANDELA DISTRIBUTION (continued):

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

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Cooper Lighting Solutions Photometric Lab
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Peachtree City, GA 30269

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

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21.5°	812.0	811.9	812.6	817.6	821.2	832.8	833.9	831.5	835.5	835.9	824.3
22°	801.1	800.4	802.2	806.6	811.2	821.5	823.3	820.7	824.8	824.6	813.8



44°	132.9	159.1	221.2	195.2	160.6	194.1	253.5	198.1	165.0	191.9	233.7
44.5°	121.7	147.6	207.5	183.8	148.2	181.9	239.7	186.2	152.8	180.1	220.1



66.5°	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.1	1.2
67°	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.0	0.9	1.0	1.1



89°	0.0	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	0.0

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21.5°	821.5	814.7	807.0	799.8	811.4	812.0
22°	810.0	803.6	795.4	789.3	799.8	801.1



44°	177.4	141.6	162.2	204.9	172.6	132.9
44.5°	165.2	130.6	150.9	192.7	160.7	121.7

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66.5°	1.3	1.2	1.3	1.2	1.2	1.1
67°	1.2	1.2	1.2	1.2	1.2	1.1

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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)