

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P775746

Luminaire Tested: HCDJBL510CSD-HCD62TRH-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775746
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B056)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD62TRH-1000lm-3000K
Description: 6 INCH ROUND NARROW HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

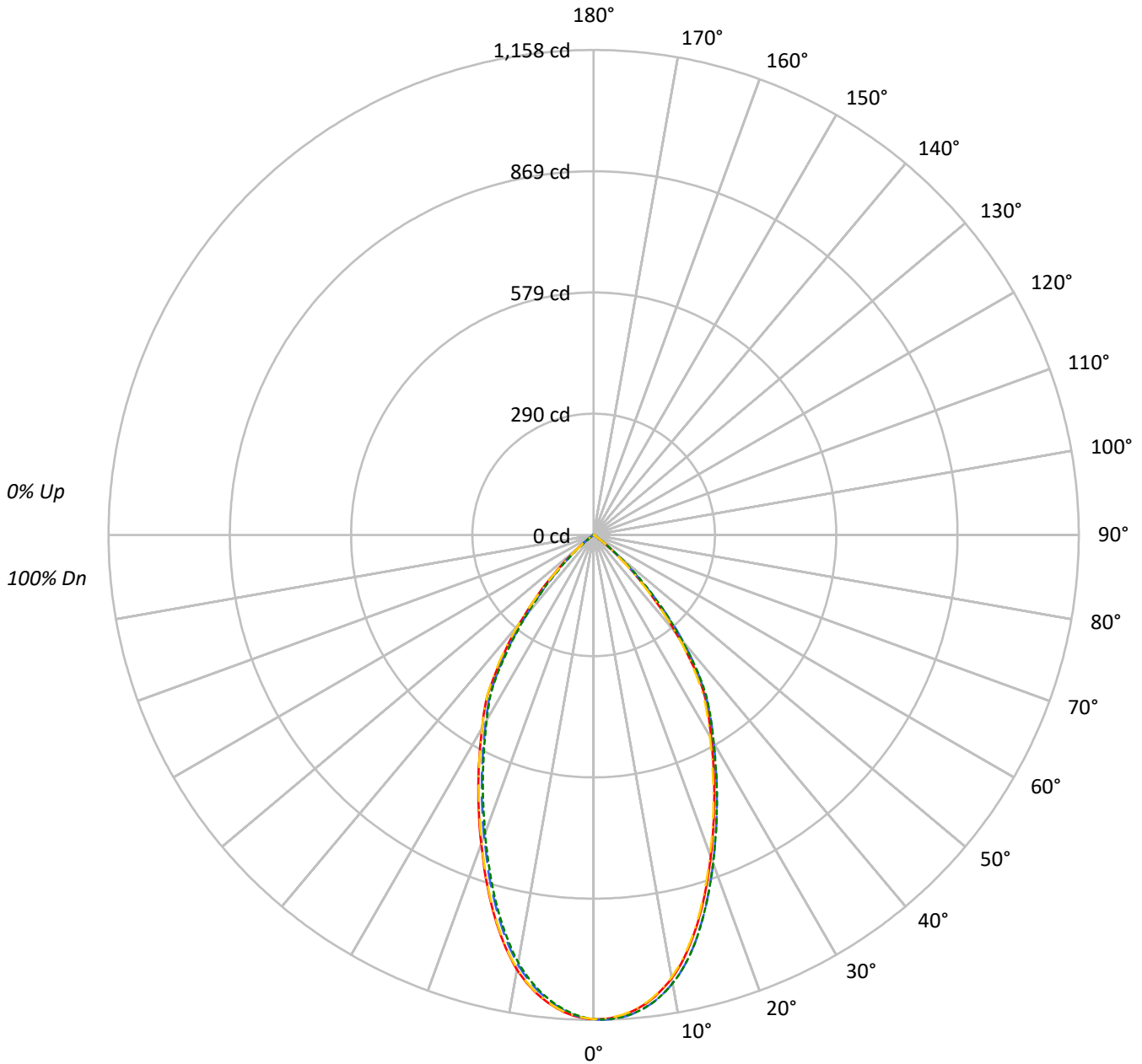
Lumens per Lamp: N/A
Luminaire Lumens: 1075.7 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 0.83 / 0.82 / 0.91
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): 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			
1	113	110	108	106	111	108	106	104	104	102	101	100	99	98	97	96	95	93					93			
2	107	102	98	95	105	101	97	93	97	94	91	94	92	89	92	89	88	86					86			
3	102	95	90	86	100	93	89	85	91	87	83	88	85	82	86	83	81	79					79			
4	96	88	82	78	94	87	82	77	85	80	77	83	79	76	81	78	75	73					73			
5	91	82	76	71	89	81	75	71	79	74	70	78	73	70	76	72	69	68					68			
6	86	77	70	66	84	76	70	66	74	69	65	73	68	65	71	67	64	63					63			
7	81	72	65	61	80	71	65	61	70	64	60	68	64	60	67	63	60	58					58			
8	77	67	61	57	76	67	61	56	65	60	56	64	59	56	63	59	56	54					54			
9	73	63	57	53	72	63	57	53	62	56	52	61	56	52	60	55	52	51					51			
10	70	59	53	49	69	59	53	49	58	53	49	57	52	49	57	52	49	47					47			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	63378	63378	63378	63378
5°	62646	62998	62090	61633
10°	59819	60492	58661	57687
15°	54410	55392	52685	51311
20°	47674	48637	45778	44215
25°	41228	42099	39377	37799
30°	35569	36246	33746	32328
35°	30564	31287	27853	26381
40°	22020	23351	19544	17833
45°	13040	14567	11125	9660
50°	5407	6320	3821	3190
55°	918	1214	918	602
60°	384	362	373	307
65°	221	208	221	182
70°	144	144	144	128
75°	106	85	106	85
80°	63	63	63	63
85°	0	63	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 15498 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.9	9.8
10°-20°	261.8	24.3
20°-30°	304.6	28.3
30°-40°	264.9	24.6
40°-50°	121.9	11.3
50°-60°	14.4	1.3
60°-70°	1.7	0.2
70°-80°	0.5	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°	672.3	62.5
0°-40°	937.2	87.1
0°-60°	1073.5	99.8
0°-90°	1075.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1075.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1156	1156	1156	1156	1156	
5°	1138	1145	1128	1120	1138	107
15°	959	976	928	904	959	267
25°	682	696	651	625	682	313
35°	457	468	416	394	457	278
45°	168	188	144	125	168	132
55°	10	13	10	6	10	16
65°	2	2	2	1	2	2
75°	0	0	0	0	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°	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1
0.5°	1156.6	1157.4	1157.5	1156.6	1156.8	1156.2	1155.8	1156.0	1155.8	1155.9	1155.7
1°	1156.4	1157.5	1157.9	1157.4	1157.1	1156.2	1155.7	1155.3	1154.7	1154.6	1154.2
1.5°	1155.5	1157.1	1157.9	1157.7	1157.1	1155.9	1155.0	1154.1	1153.0	1152.5	1151.9
2°	1154.5	1156.5	1157.4	1157.6	1156.6	1155.3	1154.0	1152.3	1151.0	1150.1	1149.1
2.5°	1152.8	1155.3	1156.4	1157.1	1155.8	1154.0	1152.2	1150.1	1148.5	1147.1	1145.8
3°	1150.8	1153.7	1154.9	1156.3	1154.4	1152.4	1150.1	1147.6	1145.3	1143.7	1142.0
3.5°	1148.5	1151.5	1153.2	1155.0	1152.7	1150.5	1147.5	1144.7	1141.8	1139.6	1137.9
4°	1145.5	1149.0	1150.8	1153.2	1150.7	1147.9	1144.7	1141.0	1137.7	1135.2	1133.4
4.5°	1142.1	1146.0	1148.3	1150.8	1148.0	1144.9	1141.2	1137.1	1133.2	1130.3	1128.2
5°	1138.4	1142.6	1144.9	1148.3	1144.8	1141.5	1137.2	1132.7	1128.3	1124.9	1122.4
5.5°	1134.3	1138.9	1141.4	1145.0	1141.3	1137.4	1132.8	1128.0	1123.1	1119.2	1116.5
6°	1129.5	1134.5	1137.5	1141.5	1137.2	1133.0	1128.1	1122.3	1117.1	1112.8	1110.0
6.5°	1124.5	1130.0	1133.0	1137.4	1132.6	1128.2	1122.8	1116.5	1111.0	1106.5	1103.1
7°	1118.7	1124.6	1127.9	1133.0	1127.8	1123.0	1117.0	1110.4	1104.4	1099.6	1096.0
7.5°	1112.4	1118.9	1122.4	1127.9	1122.2	1116.8	1110.7	1104.0	1097.0	1091.8	1088.1
8°	1105.8	1112.4	1116.1	1122.4	1116.2	1110.3	1104.0	1096.5	1089.5	1083.8	1079.8
8.5°	1098.7	1105.9	1109.7	1116.4	1109.5	1103.8	1096.7	1088.6	1081.3	1075.4	1071.1
9°	1091.1	1098.6	1102.4	1109.6	1102.4	1096.4	1089.1	1080.5	1072.7	1066.3	1061.8
9.5°	1083.0	1090.8	1095.1	1102.4	1094.9	1088.4	1080.7	1072.2	1063.5	1056.9	1052.0
10°	1074.6	1082.4	1086.8	1094.8	1086.7	1080.1	1072.1	1062.5	1053.8	1046.9	1041.5
10.5°	1065.3	1074.0	1078.3	1086.7	1078.4	1071.5	1062.6	1052.8	1043.3	1035.6	1030.1
11°	1055.7	1064.7	1069.2	1078.2	1069.2	1061.9	1052.9	1042.2	1032.2	1023.4	1018.0
11.5°	1045.3	1054.5	1059.2	1069.0	1059.5	1051.9	1042.4	1031.2	1020.4	1011.6	1005.9
12°	1034.0	1043.9	1048.6	1059.0	1049.0	1041.1	1031.0	1019.1	1008.4	999.4	993.2
12.5°	1022.5	1032.5	1037.7	1048.4	1038.2	1029.8	1019.2	1007.3	995.7	986.4	980.0
13°	1010.6	1020.9	1026.4	1037.4	1026.7	1018.1	1007.4	994.8	982.9	973.1	966.6
13.5°	998.2	1008.8	1014.5	1026.0	1014.7	1005.8	994.8	982.0	969.6	959.5	952.6
14°	985.4	996.4	1002.0	1014.3	1002.1	993.3	981.9	968.6	956.1	946.2	939.0
14.5°	972.3	983.4	989.3	1001.3	989.1	979.9	968.4	955.0	942.5	931.7	924.8
15°	958.7	970.2	975.8	988.9	976.0	966.5	954.9	941.4	928.3	917.8	910.5
15.5°	944.9	956.6	962.1	975.6	962.6	952.9	941.4	927.5	914.2	903.5	896.0
16°	931.2	942.9	948.5	961.9	948.6	939.0	927.6	913.2	900.0	889.3	881.8
16.5°	917.4	929.1	934.9	948.2	934.6	925.1	913.6	899.3	886.0	874.7	867.4
17°	903.5	915.0	920.5	934.3	920.6	910.9	899.0	884.9	871.5	860.1	852.6
17.5°	889.0	900.8	906.3	919.9	906.1	896.2	884.7	870.8	857.0	845.7	837.6
18°	874.7	886.3	892.0	905.6	891.8	881.9	870.3	856.3	842.3	830.8	822.5
18.5°	860.4	872.2	877.5	891.0	877.2	867.6	855.9	841.3	827.8	816.0	807.7
19°	845.9	857.9	862.7	876.3	862.8	853.2	841.1	826.8	812.9	801.1	793.0
19.5°	831.7	843.4	848.4	861.8	848.2	838.7	826.4	812.8	798.3	787.3	779.2
20°	817.2	828.8	833.6	847.3	833.7	824.0	812.2	798.0	784.7	773.6	765.3
20.5°	802.9	814.7	819.4	832.5	819.0	809.4	797.8	784.4	771.1	759.8	751.4
21°	788.8	800.5	805.4	818.5	804.6	795.2	784.2	770.8	757.5	746.0	737.5



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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°	747.4	758.6	763.1	775.3	763.4	754.3	743.6	730.1	716.4	704.9	696.3
23°	734.0	744.7	749.4	761.4	749.7	740.6	730.0	716.3	703.1	691.2	683.1
23.5°	720.8	731.2	735.8	747.6	736.1	726.9	716.1	703.0	689.8	678.1	670.0
24°	707.3	718.0	722.2	733.8	722.4	713.4	702.6	690.0	676.7	665.1	656.7
24.5°	694.6	704.9	708.8	720.2	709.2	699.6	689.5	676.9	663.6	652.3	643.9
25°	681.6	691.8	695.7	707.1	696.0	686.6	676.2	663.7	651.0	639.6	631.3
25.5°	668.8	678.8	682.7	694.1	682.7	673.9	663.3	651.2	638.5	626.9	619.0
26°	656.3	666.6	670.0	680.9	669.9	661.4	650.8	638.7	626.1	614.6	606.8
26.5°	644.0	653.5	657.4	667.6	657.2	648.4	638.2	626.2	613.6	602.4	594.1
27°	631.6	641.1	644.7	655.1	644.6	635.6	625.7	613.9	601.5	590.4	582.2
27.5°	619.3	628.8	632.2	642.6	632.0	623.8	613.5	601.7	589.4	578.5	570.3
28°	607.4	617.1	620.0	630.3	619.5	611.5	601.3	589.9	577.7	566.6	558.8
28.5°	595.5	605.2	607.9	618.0	607.6	599.2	589.4	578.0	565.9	555.0	547.3
29°	584.1	593.1	596.1	605.7	595.7	587.5	578.1	566.6	554.8	543.9	536.1
29.5°	573.0	581.8	584.2	593.9	584.1	576.1	566.6	555.4	543.7	533.1	525.3
30°	561.9	570.8	573.2	582.6	572.6	564.9	555.4	544.5	533.1	522.3	514.8
30.5°	551.1	559.7	562.3	571.4	561.6	553.8	544.6	533.6	522.4	511.8	504.5
31°	540.5	549.0	551.5	560.1	551.0	543.3	533.9	523.2	511.9	501.5	494.1
31.5°	529.9	538.3	540.8	549.4	540.3	532.9	523.5	513.0	501.8	491.5	484.3
32°	520.0	528.4	530.5	538.8	530.1	522.4	513.6	503.1	491.8	481.4	474.2
32.5°	510.1	518.2	520.3	528.4	519.7	512.3	503.3	492.7	481.8	471.3	464.4
33°	500.2	508.2	510.3	518.3	510.0	502.3	493.2	482.2	470.9	460.2	453.0
33.5°	489.8	497.8	499.7	508.1	499.7	492.3	482.4	470.2	458.8	447.4	439.5
34°	479.5	487.2	488.3	497.8	489.6	481.8	470.9	457.7	445.6	434.0	426.2
34.5°	468.0	475.6	475.9	486.7	478.9	470.7	458.5	444.6	430.9	420.2	411.7
35°	456.7	463.4	463.6	474.4	467.5	459.4	446.0	431.6	416.2	406.1	397.7
35.5°	444.3	450.7	451.2	462.4	455.7	447.7	433.4	418.0	400.8	390.5	383.9
36°	431.0	437.6	438.7	449.8	443.5	435.1	420.7	404.2	386.4	375.0	370.0
36.5°	416.4	424.0	426.1	437.6	430.0	421.4	407.3	390.0	372.1	359.8	355.0
37°	400.6	410.1	413.5	425.0	416.2	406.9	393.7	375.7	358.5	344.8	340.5
37.5°	384.2	395.8	400.5	412.1	401.6	392.3	379.7	360.8	344.6	330.0	325.3
38°	368.3	381.7	386.9	399.0	386.6	377.5	365.5	346.6	330.9	315.5	310.4
38.5°	353.2	366.9	373.1	385.8	371.2	361.7	350.8	332.3	316.6	301.6	294.6
39°	338.0	351.7	359.1	372.4	355.9	345.6	336.2	318.3	302.5	288.2	280.2
39.5°	322.8	336.5	345.0	358.2	341.1	330.2	320.9	304.3	287.9	273.9	265.2
40°	307.7	321.3	330.9	343.9	326.3	315.5	305.5	290.4	273.1	259.7	251.0
40.5°	292.6	306.2	316.8	329.6	311.6	300.7	289.8	276.5	258.6	246.0	236.3
41°	278.2	291.0	302.8	315.3	297.5	286.3	274.2	262.5	245.2	232.3	222.3
41.5°	263.4	276.2	288.0	301.0	283.4	271.3	258.8	248.3	231.8	218.8	208.1
42°	249.3	262.3	273.1	286.0	269.7	257.2	243.9	233.9	218.8	205.5	194.4
42.5°	234.9	248.6	258.4	271.2	255.6	243.3	229.4	219.7	206.3	192.6	181.5
43°	220.9	234.8	243.4	256.8	241.7	229.4	215.5	205.9	193.6	180.7	169.2
43.5°	206.8	220.4	228.3	242.3	227.9	215.3	201.6	192.0	180.8	168.0	156.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	168.2	180.5	185.7	199.9	187.9	175.5	162.9	152.2	143.5	132.7	123.7
45.5°	155.8	167.6	171.9	186.5	175.1	162.9	150.4	139.8	131.7	121.4	113.4
46°	144.1	155.0	158.8	173.0	163.1	150.5	138.7	127.9	120.3	110.7	103.8
46.5°	132.5	142.8	146.0	159.9	150.4	138.6	127.2	116.3	109.3	101.6	95.3
47°	121.3	131.1	133.3	147.0	138.1	127.8	116.0	106.4	99.2	92.5	87.0
47.5°	110.3	119.6	121.5	134.7	126.5	117.0	105.5	96.6	89.2	83.3	78.5
48°	100.1	108.4	110.1	122.5	115.4	106.4	96.1	86.8	79.1	74.2	70.0
48.5°	90.3	97.3	99.4	110.7	105.1	96.9	86.8	77.0	69.0	65.0	62.8
49°	81.0	87.0	89.2	100.1	94.7	87.4	77.5	67.2	60.3	57.6	55.9
49.5°	72.2	77.0	79.3	89.3	84.4	77.9	68.1	59.2	52.2	50.3	49.6
50°	63.4	67.5	70.0	79.4	74.1	68.5	60.1	51.8	44.8	44.0	43.7
50.5°	55.3	58.6	61.3	69.8	63.8	60.1	52.5	45.1	38.4	38.0	38.1
51°	47.7	50.5	53.3	61.1	55.2	52.1	45.6	38.9	32.8	32.8	33.0
51.5°	40.5	43.1	45.7	52.6	47.6	44.8	39.5	33.5	28.2	28.1	28.5
52°	33.9	36.5	38.7	45.0	40.3	37.9	33.8	28.4	24.1	23.9	24.3
52.5°	29.2	31.8	33.7	38.1	33.6	31.7	28.6	23.9	20.5	20.1	20.3
53°	24.5	27.1	28.7	33.2	27.8	26.2	23.8	20.0	17.5	16.8	16.8
53.5°	19.8	22.6	23.7	28.3	22.7	21.3	19.7	16.6	14.7	14.0	13.8
54°	15.2	17.9	18.7	23.4	18.3	17.2	16.1	13.7	12.2	12.4	12.1
54.5°	12.0	13.3	13.7	18.5	14.6	13.8	14.0	12.0	10.9	10.7	10.4
55°	9.6	10.4	10.7	13.6	12.7	12.0	11.8	10.4	9.6	9.0	8.7
55.5°	7.7	8.2	8.3	10.6	10.8	10.3	9.8	8.8	8.3	7.3	7.0
56°	6.4	6.6	6.5	8.2	8.9	8.6	7.8	7.2	6.9	5.7	5.3
56.5°	5.7	5.8	5.7	6.4	6.9	6.8	5.7	5.6	5.6	5.2	4.9
57°	5.3	5.3	5.2	5.5	5.1	5.1	5.2	5.2	5.2	4.9	4.6
57.5°	5.0	5.0	4.8	5.0	4.7	4.7	4.8	4.9	4.8	4.6	4.3
58°	4.6	4.6	4.5	4.6	4.4	4.4	4.5	4.6	4.5	4.3	4.0
58.5°	4.3	4.3	4.1	4.3	4.1	4.1	4.2	4.3	4.2	4.0	3.7
59°	4.0	4.0	3.9	4.0	3.8	3.8	3.9	4.0	3.9	3.7	3.5
59.5°	3.8	3.7	3.6	3.7	3.5	3.5	3.6	3.7	3.7	3.5	3.2
60°	3.5	3.5	3.4	3.5	3.3	3.3	3.4	3.4	3.4	3.2	3.0
60.5°	3.3	3.2	3.1	3.2	3.1	3.1	3.1	3.2	3.2	3.0	2.8
61°	3.0	3.0	2.9	3.0	2.8	2.9	2.9	3.0	3.0	2.8	2.6
61.5°	2.8	2.8	2.7	2.8	2.7	2.7	2.7	2.8	2.8	2.6	2.4
62°	2.6	2.6	2.4	2.6	2.4	2.4	2.6	2.6	2.6	2.4	2.2
62.5°	2.4	2.4	2.2	2.3	2.2	2.2	2.3	2.4	2.4	2.2	2.1
63°	2.2	2.2	2.1	2.2	2.1	2.1	2.1	2.2	2.2	2.1	1.9
63.5°	2.1	2.1	2.0	2.0	1.9	2.0	2.0	2.1	2.1	2.0	1.8
64°	2.0	1.9	1.8	1.9	1.8	1.8	1.9	2.0	2.0	1.9	1.7
64.5°	1.8	1.8	1.7	1.8	1.7	1.7	1.8	1.8	1.8	1.7	1.6
65°	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.7	1.7	1.6	1.5
65.5°	1.6	1.6	1.5	1.6	1.5	1.5	1.6	1.6	1.6	1.5	1.4
66°	1.5	1.5	1.4	1.5	1.4	1.4	1.5	1.5	1.5	1.4	1.3



TEST NUMBER: P775746

CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.1
68°	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.1	1.1
68.5°	1.1	1.1	1.0	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.0
69°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.0	0.9
69.5°	1.0	1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9
70°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.8
70.5°	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8
71°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
71.5°	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7
72°	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
72.5°	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6
73°	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
73.5°	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5
74°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.5
74.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4
75.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.4
76°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
76.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
77°	0.4	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3
77.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
78°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
78.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
79°	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2
79.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
80°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
80.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
81°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
81.5°	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
82°	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
83°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
83.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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	0.1	0.1	0.0	0.1
85°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	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	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: P775746
CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-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: P775746

CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1156.1	1156.1	1156.1	1156.1	1156.1	1156.1
0.5°	1153.7	1154.5	1154.5	1155.0	1155.8	1156.6
1°	1151.5	1152.7	1152.9	1153.9	1155.0	1156.4
1.5°	1148.8	1150.2	1150.7	1152.0	1153.9	1155.5
2°	1145.4	1147.4	1148.3	1150.0	1152.2	1154.5
2.5°	1141.6	1144.0	1145.0	1147.4	1150.3	1152.8
3°	1137.3	1140.1	1141.5	1144.3	1147.7	1150.8
3.5°	1132.5	1136.0	1137.5	1140.8	1144.7	1148.5
4°	1127.4	1130.9	1133.1	1136.7	1141.2	1145.5
4.5°	1121.7	1125.8	1128.1	1132.2	1137.3	1142.1
5°	1115.7	1120.0	1122.7	1127.2	1133.0	1138.4
5.5°	1109.0	1114.0	1116.8	1121.8	1128.3	1134.3
6°	1102.1	1107.5	1110.7	1116.0	1123.2	1129.5
6.5°	1094.7	1100.3	1104.1	1109.9	1117.5	1124.5
7°	1086.9	1092.8	1096.9	1103.2	1111.3	1118.7
7.5°	1078.7	1084.8	1089.2	1095.9	1104.6	1112.4
8°	1069.7	1076.3	1080.9	1088.2	1097.3	1105.8
8.5°	1060.2	1067.3	1072.4	1079.9	1089.8	1098.7
9°	1050.3	1057.5	1062.9	1071.1	1081.4	1091.1
9.5°	1039.7	1047.5	1053.1	1061.9	1072.8	1083.0
10°	1028.3	1036.3	1042.2	1052.1	1063.9	1074.6
10.5°	1016.1	1025.0	1031.3	1041.6	1054.1	1065.3
11°	1003.4	1013.1	1019.6	1030.2	1043.7	1055.7
11.5°	990.9	1000.2	1007.9	1018.5	1032.5	1045.3
12°	977.7	987.4	994.6	1006.7	1020.9	1034.0
12.5°	964.2	973.9	981.6	994.0	1008.9	1022.5
13°	950.5	960.4	968.8	981.4	996.8	1010.6
13.5°	936.6	946.6	955.3	967.8	983.7	998.2
14°	922.5	932.9	941.2	954.1	970.7	985.4
14.5°	907.9	918.7	927.1	940.9	957.1	972.3
15°	893.9	904.1	912.9	926.7	943.5	958.7
15.5°	879.2	889.6	898.8	912.6	929.6	944.9
16°	864.4	875.0	884.2	897.8	915.5	931.2
16.5°	849.8	860.5	869.8	883.9	901.5	917.4
17°	834.9	845.9	855.1	869.5	887.5	903.5
17.5°	820.3	831.0	840.4	854.9	873.1	889.0
18°	804.8	816.0	825.3	839.9	858.6	874.7
18.5°	790.4	800.9	810.5	825.1	844.1	860.4
19°	776.1	786.4	795.7	811.1	829.5	845.9
19.5°	761.8	772.2	781.6	797.0	815.4	831.7
20°	747.5	757.9	767.8	782.6	801.1	817.2
20.5°	733.4	744.1	753.9	768.6	787.1	802.9
21°	720.8	729.7	739.6	754.4	772.7	788.8



TEST NUMBER: P775746

CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	680.5	689.2	699.2	714.2	731.8	747.4
23°	667.3	676.0	685.7	700.5	718.3	734.0
23.5°	654.4	662.9	672.9	687.7	705.3	720.8
24°	641.9	650.3	660.2	674.5	692.3	707.3
24.5°	628.9	637.6	647.3	662.0	679.2	694.6
25°	616.8	624.9	634.8	648.8	666.5	681.6
25.5°	604.2	612.7	622.6	636.7	653.9	668.8
26°	592.1	600.6	610.5	624.4	641.6	656.3
26.5°	580.2	588.7	598.5	612.4	629.2	644.0
27°	568.3	576.8	586.5	600.5	617.1	631.6
27.5°	556.6	565.2	574.6	588.5	605.1	619.3
28°	545.3	553.6	563.1	576.5	593.2	607.4
28.5°	534.4	542.4	552.0	565.2	581.6	595.5
29°	523.8	531.7	541.2	554.4	570.3	584.1
29.5°	512.9	521.1	530.1	543.4	559.1	573.0
30°	502.5	510.7	519.8	532.8	548.5	561.9
30.5°	492.5	500.5	509.5	522.2	537.9	551.1
31°	482.7	490.5	499.7	512.3	527.5	540.5
31.5°	472.7	480.6	489.9	502.4	517.1	529.9
32°	462.6	470.8	479.8	492.4	507.2	520.0
32.5°	451.5	461.0	470.0	482.7	497.5	510.1
33°	439.2	449.5	459.0	471.8	487.7	500.2
33.5°	425.7	436.7	446.7	459.8	476.9	489.8
34°	411.1	423.3	433.6	447.2	465.0	479.5
34.5°	396.6	408.8	419.2	434.8	453.0	468.0
35°	382.4	394.2	404.6	421.3	440.3	456.7
35.5°	368.2	378.8	390.0	408.2	427.3	444.3
36°	353.6	361.9	375.8	394.4	413.7	431.0
36.5°	338.4	347.6	366.8	380.3	399.9	416.4
37°	323.2	333.6	351.8	366.3	385.8	400.6
37.5°	308.4	319.5	336.7	351.6	371.0	384.2
38°	293.0	305.3	321.6	336.9	355.5	368.3
38.5°	278.1	291.5	306.5	322.2	340.0	353.2
39°	263.8	277.4	292.3	307.5	324.5	338.0
39.5°	249.9	263.3	277.5	292.8	309.0	322.8
40°	235.8	249.2	262.8	278.3	293.3	307.7
40.5°	222.3	235.5	248.3	264.0	277.7	292.6
41°	208.8	221.9	234.0	249.8	262.1	278.2
41.5°	195.2	208.3	220.4	235.1	246.5	263.4
42°	181.8	195.9	207.1	221.3	232.0	249.3
42.5°	169.5	182.9	194.4	206.9	217.5	234.9
43°	157.0	171.4	181.8	192.8	204.1	220.9
43.5°	145.2	159.2	169.0	178.4	190.4	206.8



TEST NUMBER: P775746

CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	113.1	124.6	132.2	139.0	152.9	168.2
45.5°	103.5	113.8	120.5	127.2	141.0	155.8
46°	94.9	103.1	109.3	115.7	129.7	144.1
46.5°	86.3	92.8	98.4	105.0	118.8	132.5
47°	77.8	83.3	88.2	94.9	108.3	121.3
47.5°	69.2	74.3	78.5	85.2	98.1	110.3
48°	62.0	65.6	69.4	76.1	88.4	100.1
48.5°	55.1	57.7	60.8	67.7	79.1	90.3
49°	48.5	50.4	52.8	59.9	70.2	81.0
49.5°	42.6	43.7	45.4	52.8	62.1	72.2
50°	37.2	37.4	38.9	45.9	54.3	63.4
50.5°	32.0	33.3	34.6	39.8	47.3	55.3
51°	27.5	29.1	30.3	34.2	40.8	47.7
51.5°	23.2	25.0	26.0	29.9	34.8	40.5
52°	19.5	20.9	21.7	25.7	30.3	33.9
52.5°	16.1	16.7	17.5	21.4	25.8	29.2
53°	13.2	14.0	14.7	17.2	21.4	24.5
53.5°	11.5	11.4	12.1	14.2	17.0	19.8
54°	10.0	9.4	10.0	11.4	13.7	15.2
54.5°	8.4	7.7	8.2	9.2	10.9	12.0
55°	6.7	6.3	6.6	7.3	8.7	9.6
55.5°	5.1	5.4	5.6	6.1	6.9	7.7
56°	4.7	4.9	5.1	5.4	6.0	6.4
56.5°	4.4	4.6	4.7	5.0	5.4	5.7
57°	4.1	4.3	4.4	4.7	5.0	5.3
57.5°	3.9	4.0	4.1	4.3	4.7	5.0
58°	3.6	3.8	3.9	4.0	4.4	4.6
58.5°	3.3	3.5	3.6	3.8	4.1	4.3
59°	3.1	3.3	3.4	3.5	3.8	4.0
59.5°	2.9	3.0	3.1	3.3	3.6	3.8
60°	2.7	2.8	2.9	3.0	3.3	3.5
60.5°	2.4	2.6	2.7	2.8	3.1	3.3
61°	2.3	2.4	2.4	2.6	2.8	3.0
61.5°	2.1	2.2	2.3	2.4	2.7	2.8
62°	2.0	2.1	2.1	2.2	2.4	2.6
62.5°	1.9	1.9	2.0	2.1	2.2	2.4
63°	1.8	1.8	1.9	1.9	2.1	2.2
63.5°	1.7	1.7	1.7	1.8	2.0	2.1
64°	1.6	1.6	1.6	1.7	1.9	2.0
64.5°	1.5	1.5	1.5	1.6	1.7	1.8
65°	1.4	1.4	1.4	1.5	1.6	1.7
65.5°	1.3	1.3	1.4	1.4	1.5	1.6
66°	1.2	1.3	1.3	1.3	1.4	1.5



TEST NUMBER: P775746

CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	1.0	1.0	1.1	1.1	1.2	1.3
68°	1.0	1.0	1.0	1.0	1.1	1.2
68.5°	0.9	0.9	0.9	1.0	1.1	1.1
69°	0.8	0.9	0.9	0.9	1.0	1.0
69.5°	0.8	0.8	0.8	0.9	0.9	1.0
70°	0.7	0.8	0.8	0.8	0.9	0.9
70.5°	0.7	0.7	0.7	0.8	0.8	0.9
71°	0.7	0.7	0.7	0.7	0.8	0.8
71.5°	0.6	0.6	0.6	0.7	0.7	0.8
72°	0.6	0.6	0.6	0.6	0.7	0.7
72.5°	0.5	0.6	0.6	0.6	0.6	0.7
73°	0.5	0.5	0.5	0.6	0.6	0.6
73.5°	0.5	0.5	0.5	0.5	0.6	0.6
74°	0.5	0.5	0.5	0.5	0.5	0.5
74.5°	0.4	0.4	0.4	0.5	0.5	0.5
75°	0.4	0.4	0.4	0.4	0.4	0.5
75.5°	0.4	0.4	0.4	0.4	0.4	0.4
76°	0.3	0.4	0.4	0.4	0.4	0.4
76.5°	0.3	0.3	0.3	0.3	0.4	0.4
77°	0.3	0.3	0.3	0.3	0.3	0.4
77.5°	0.3	0.3	0.3	0.3	0.3	0.3
78°	0.3	0.3	0.3	0.3	0.3	0.3
78.5°	0.2	0.2	0.2	0.2	0.3	0.3
79°	0.2	0.2	0.2	0.2	0.2	0.3
79.5°	0.2	0.2	0.2	0.2	0.2	0.2
80°	0.2	0.2	0.2	0.2	0.2	0.2
80.5°	0.2	0.2	0.2	0.2	0.2	0.2
81°	0.1	0.2	0.2	0.2	0.2	0.2
81.5°	0.1	0.1	0.1	0.1	0.1	0.2
82°	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.1	0.1	0.1	0.1	0.1	0.1
83°	0.1	0.1	0.1	0.1	0.1	0.1
83.5°	0.1	0.1	0.1	0.1	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	0.0	0.1
85°	0.0	0.0	0.1	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	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: P775746
CATALOG NUMBER: HCDJBL510CSD-HCD62TRH-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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— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

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21.5°	775.0	785.9	791.2	804.4	790.6	781.5	770.6	757.2	743.9	732.2	723.8
22°	760.9	771.9	776.7	789.8	777.0	768.0	757.1	743.7	730.3	718.2	710.0



44°	193.7	206.8	214.1	227.9	214.2	201.1	188.2	178.3	168.0	156.0	145.3
44.5°	181.1	193.5	199.7	213.6	200.9	188.1	175.5	164.8	155.5	143.9	134.2



66.5°	1.4	1.4	1.3	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.3
67°	1.3	1.3	1.3	1.3	1.2	1.3	1.3	1.3	1.4	1.3	1.2



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°	707.4	716.1	726.2	741.0	759.1	775.0
22°	693.7	702.4	712.2	727.1	745.5	760.9



44°	133.8	147.4	156.5	164.9	177.3	193.7
44.5°	123.3	135.7	144.2	151.4	164.8	181.1



66.5°	1.1	1.2	1.2	1.3	1.4	1.4
67°	1.1	1.1	1.1	1.2	1.3	1.3

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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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(END OF REPORT)