

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: P775756

Luminaire Tested: HCDJBS510CSD-HCD62TRMB-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775756
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B058)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD62TRMB-1000lm-3000K
Description: 6 INCH ROUND NARROW MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 711.7 lumens
Efficiency: N/A
Efficacy: 71.2 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.11
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

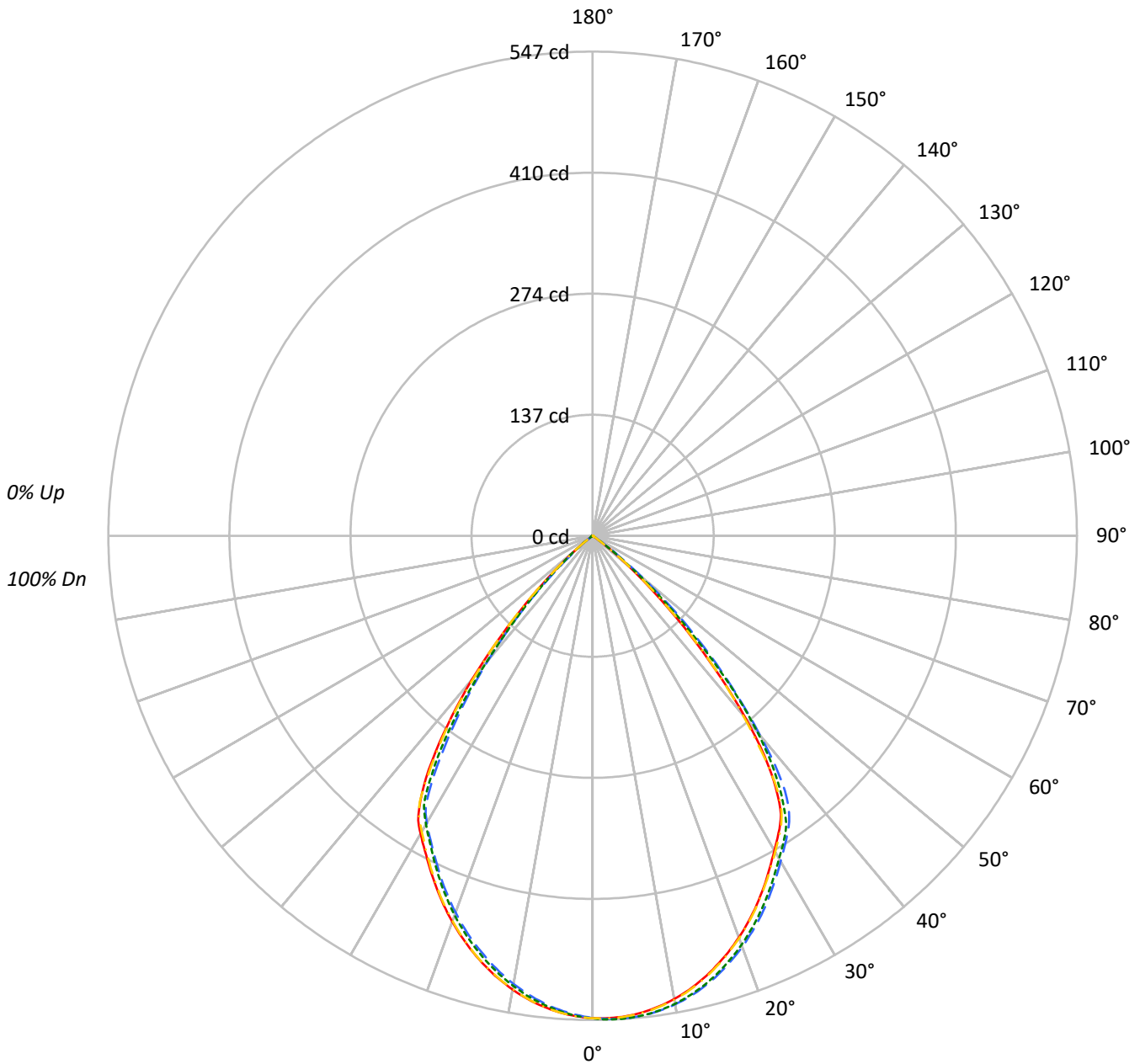
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

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	107	105	111	108	105	103	104	102	100	100	98	97	97	95	94	92					92			
2	107	101	97	93	104	100	96	92	96	93	90	93	91	88	91	88	86	85					85			
3	101	94	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77					77			
4	95	86	80	76	93	85	80	75	83	78	74	81	77	73	79	75	72	71					71			
5	89	80	73	69	87	79	73	68	77	72	68	75	71	67	74	70	66	65					65			
6	84	74	67	63	82	73	67	62	72	66	62	70	65	62	69	64	61	60					60			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55					55			
8	75	64	57	53	73	63	57	53	62	57	53	61	56	52	60	56	52	51					51			
9	70	60	53	49	69	59	53	49	58	53	49	57	52	48	56	52	48	47					47			
10	67	56	50	45	66	55	49	45	55	49	45	54	49	45	53	48	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	29877	29877	29877	29877
5°	29876	30035	29573	29463
10°	29575	29881	28974	28746
15°	28996	29421	28122	27781
20°	28177	28685	27069	26608
25°	27135	27721	25810	25199
30°	25998	26662	24605	23833
35°	24601	25284	21596	20391
40°	19243	20717	15114	13397
45°	11319	13071	7629	6698
50°	4460	5390	2226	2234
55°	650	851	182	220
60°	143	153	132	110
65°	104	104	91	78
70°	80	80	64	64
75°	64	64	42	42
80°	32	32	32	32
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 14451 cd/sqm



TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.1	7.2
10°-20°	141.5	19.9
20°-30°	201.2	28.3
30°-40°	207.8	29.2
40°-50°	99.3	14.0
50°-60°	9.6	1.3
60°-70°	0.8	0.1
70°-80°	0.3	0.0
80°-90°	0.0	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°	393.9	55.3
0°-40°	601.7	84.5
0°-60°	710.6	99.8
0°-90°	711.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	711.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	545	545	545	545	545	
5°	543	546	537	535	543	51
15°	511	518	496	490	511	144
25°	449	458	427	417	449	206
35°	368	378	323	305	368	223
45°	146	169	98	86	146	114
55°	7	9	2	2	7	12
65°	1	1	1	1	1	1
75°	0	0	0	0	0	0
85°	0	0	0	0	0	0
90°	0	0	0	0	0	



TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0	545.0
0.5°	545.1	545.1	545.2	545.0	545.9	545.6	545.3	545.2	544.6	544.3	543.9
1°	545.3	545.4	545.6	545.5	546.3	545.9	545.5	545.1	544.2	543.7	543.3
1.5°	545.3	545.6	546.0	546.0	546.5	546.1	545.6	544.9	543.6	543.0	542.4
2°	545.3	545.9	546.3	546.4	546.8	546.3	545.5	544.5	543.1	542.2	541.5
2.5°	545.1	545.9	546.5	546.6	546.8	546.3	545.4	544.0	542.4	541.4	540.4
3°	544.8	545.9	546.5	546.7	546.8	546.2	545.1	543.6	541.6	540.3	539.3
3.5°	544.5	545.6	546.5	546.8	546.7	546.0	544.8	543.0	540.7	539.3	538.1
4°	544.1	545.3	546.3	546.7	546.5	545.8	544.4	542.2	539.7	538.1	536.8
4.5°	543.6	544.9	546.1	546.6	546.3	545.3	543.9	541.4	538.7	536.8	535.4
5°	542.9	544.4	545.8	546.3	545.8	544.8	543.3	540.4	537.4	535.4	534.0
5.5°	542.2	544.0	545.4	546.0	545.2	544.3	542.6	539.5	536.1	533.9	532.4
6°	541.4	543.4	544.9	545.4	544.7	543.7	541.8	538.6	534.7	532.5	530.6
6.5°	540.3	542.7	544.3	545.0	544.0	542.9	541.0	537.4	533.3	530.8	528.8
7°	539.3	541.8	543.6	544.4	543.3	542.1	539.9	536.2	531.8	529.0	527.0
7.5°	538.2	540.9	542.8	543.7	542.4	541.2	538.9	534.8	530.1	527.2	525.0
8°	537.1	539.8	542.0	543.0	541.6	540.1	537.7	533.4	528.3	525.3	523.1
8.5°	535.7	538.7	541.0	542.0	540.4	539.0	536.5	531.9	526.5	523.3	520.9
9°	534.3	537.6	539.9	541.1	539.3	537.9	535.0	530.1	524.7	521.2	518.8
9.5°	532.9	536.3	538.8	539.9	538.1	536.5	533.6	528.5	522.7	519.1	516.4
10°	531.3	534.8	537.5	538.7	536.8	535.1	532.1	526.6	520.5	516.9	514.2
10.5°	529.6	533.3	536.2	537.5	535.3	533.7	530.4	524.7	518.4	514.4	511.8
11°	527.9	531.8	534.8	536.1	533.8	532.1	528.7	522.8	516.1	512.1	509.2
11.5°	526.1	530.1	533.2	534.6	532.2	530.3	527.0	520.7	513.9	509.6	506.5
12°	524.2	528.3	531.7	533.1	530.4	528.7	525.0	518.6	511.4	507.2	504.0
12.5°	522.1	526.5	529.9	531.5	528.7	526.9	523.0	516.3	509.0	504.5	501.1
13°	520.0	524.5	528.1	529.7	526.8	525.0	520.9	514.1	506.4	501.7	498.5
13.5°	517.9	522.6	526.1	528.0	524.8	522.9	518.9	511.5	503.7	499.1	495.6
14°	515.6	520.5	524.2	525.9	522.8	520.8	516.5	509.2	501.0	496.2	492.7
14.5°	513.3	518.4	522.1	524.0	520.5	518.5	514.2	506.6	498.3	493.4	489.6
15°	510.9	516.1	520.0	521.9	518.4	516.1	511.9	503.9	495.5	490.4	486.5
15.5°	508.5	513.7	517.9	519.6	516.1	513.7	509.3	501.2	492.7	487.3	483.6
16°	505.8	511.2	515.4	517.4	513.7	511.2	506.7	498.5	489.6	484.3	480.4
16.5°	503.2	508.8	513.0	515.0	511.2	508.8	504.2	495.6	486.6	481.0	477.2
17°	500.5	506.2	510.4	512.7	508.6	506.2	501.4	492.8	483.6	478.0	473.9
17.5°	497.8	503.6	508.0	510.1	505.9	503.5	498.7	489.9	480.4	474.8	470.5
18°	495.0	500.8	505.3	507.5	503.2	500.7	495.8	486.8	477.2	471.4	467.0
18.5°	492.1	498.0	502.6	504.8	500.4	497.8	492.8	483.8	474.0	468.0	463.7
19°	489.0	495.2	499.9	502.2	497.6	495.0	489.9	480.6	470.7	464.6	460.2
19.5°	486.0	492.4	497.0	499.3	494.7	491.9	486.9	477.4	467.3	461.2	456.5
20°	483.0	489.4	494.2	496.4	491.7	489.0	483.9	474.1	464.0	457.6	452.8
20.5°	479.8	486.3	491.2	493.5	488.7	485.8	480.7	470.9	460.4	454.0	449.2
21°	476.7	483.3	488.2	490.5	485.4	482.8	477.4	467.4	456.8	450.4	445.4



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CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	466.6	473.6	478.7	480.9	475.7	473.0	467.4	457.0	445.9	439.1	433.9
23°	463.1	470.0	475.4	477.7	472.3	469.6	464.0	453.4	442.0	435.2	429.9
23.5°	459.6	466.6	472.0	474.3	468.9	466.1	460.5	449.8	438.2	431.3	425.9
24°	455.9	463.0	468.7	471.1	465.4	462.6	456.9	446.1	434.4	427.4	421.8
24.5°	452.3	459.7	465.2	467.6	461.8	459.1	453.3	442.4	430.6	423.3	417.8
25°	448.6	456.0	461.7	464.1	458.3	455.5	449.7	438.6	426.7	419.4	413.6
25.5°	444.9	452.3	458.0	460.5	454.7	451.8	446.0	434.9	422.7	415.4	409.5
26°	441.2	448.9	454.5	456.9	451.1	448.1	442.3	431.0	418.8	411.4	405.5
26.5°	437.3	445.2	450.8	453.3	447.4	444.4	438.5	427.2	415.0	407.3	401.6
27°	433.5	441.5	447.1	449.7	443.7	440.7	434.8	423.3	410.9	403.4	397.5
27.5°	429.7	437.6	443.4	445.9	440.0	436.9	431.0	419.3	407.1	399.5	393.6
28°	425.9	433.8	439.7	442.2	436.1	433.2	427.1	415.6	403.3	395.9	389.7
28.5°	421.9	430.1	436.0	438.3	432.2	429.4	423.3	411.9	399.7	392.1	386.2
29°	418.0	426.3	432.2	434.7	428.5	425.6	419.7	408.1	396.1	388.3	382.3
29.5°	414.3	422.5	428.4	431.0	424.9	421.9	416.1	404.5	392.3	384.5	378.5
30°	410.7	418.8	424.8	427.2	421.2	418.3	412.4	400.9	388.7	380.9	374.7
30.5°	407.0	415.2	421.1	423.5	417.6	414.6	408.9	397.4	385.0	377.0	370.5
31°	403.4	411.7	417.6	420.0	414.2	411.2	405.4	393.8	381.2	372.9	366.3
31.5°	399.7	408.1	414.0	416.5	410.7	407.7	401.9	390.1	377.1	367.9	360.7
32°	396.2	404.5	410.5	412.9	407.2	404.2	398.3	386.3	371.2	361.1	353.3
32.5°	392.6	401.0	407.1	409.5	403.6	400.8	394.6	382.1	364.5	353.3	344.7
33°	388.8	397.4	403.5	405.9	399.9	396.8	390.7	377.1	357.1	344.3	334.9
33.5°	384.7	393.7	399.9	402.5	395.8	392.8	386.4	370.9	349.1	334.7	324.8
34°	380.3	389.6	396.0	398.6	390.9	388.1	381.6	364.1	340.9	324.5	314.0
34.5°	374.4	385.2	391.9	394.4	384.6	382.6	376.3	356.3	332.0	314.5	303.3
35°	367.6	380.0	387.1	389.2	377.8	376.1	370.1	348.3	322.7	304.4	292.2
35.5°	360.1	374.2	381.9	383.1	370.4	368.9	363.2	339.6	312.8	294.2	281.7
36°	351.9	367.2	375.5	376.2	363.1	361.1	355.1	330.4	302.1	284.3	270.5
36.5°	343.6	359.6	368.7	368.7	355.2	352.7	345.6	320.5	291.2	274.4	259.8
37°	334.5	350.8	360.7	360.8	347.3	343.8	334.8	310.3	279.9	263.6	248.9
37.5°	324.9	341.4	351.9	352.9	338.7	334.2	323.2	299.2	268.9	253.0	238.2
38°	314.6	330.8	341.4	344.4	330.0	324.3	310.6	287.5	257.5	241.7	227.1
38.5°	303.8	319.7	330.7	335.4	320.3	313.9	298.6	275.2	246.1	230.5	215.9
39°	292.4	307.5	319.0	326.0	310.5	302.7	286.5	263.1	234.4	218.7	204.8
39.5°	280.9	295.6	306.6	315.9	300.1	291.4	275.2	250.3	223.1	207.3	193.9
40°	268.9	283.1	294.5	305.6	289.5	279.3	263.7	237.5	211.2	195.7	182.8
40.5°	256.8	270.3	282.4	294.9	278.3	267.2	252.8	224.8	199.5	184.9	172.0
41°	243.9	257.4	270.6	283.4	267.4	255.4	241.5	212.4	187.7	173.7	161.4
41.5°	231.2	245.5	259.0	271.8	255.7	243.6	230.0	199.9	175.7	163.1	151.0
42°	218.1	233.4	247.3	259.6	243.8	232.1	218.2	188.0	163.6	152.2	140.6
42.5°	205.5	221.4	236.0	247.6	231.3	220.6	206.0	176.3	151.7	141.5	130.2
43°	193.0	209.3	224.2	235.2	218.8	209.1	194.2	164.9	140.1	130.6	120.1
43.5°	181.0	197.5	212.7	223.2	205.9	197.7	182.7	153.6	129.0	120.2	110.3



TEST NUMBER: P775756

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	146.0	162.1	177.4	186.4	168.6	163.0	149.3	122.3	98.4	90.8	82.8
45.5°	135.3	150.8	166.3	174.7	156.2	151.6	138.5	112.5	89.2	81.4	73.6
46°	124.4	139.9	155.1	162.9	144.5	140.5	127.8	103.5	80.1	71.9	64.4
46.5°	113.7	129.5	144.4	151.4	132.7	129.7	117.5	94.5	70.9	62.5	56.6
47°	103.5	119.5	133.7	140.1	121.5	118.9	107.0	85.6	63.1	54.6	49.0
47.5°	93.7	109.7	123.2	128.9	110.6	108.3	97.8	76.6	55.6	47.1	42.2
48°	84.4	100.2	113.0	117.8	101.1	98.4	88.6	67.6	48.7	39.9	35.9
48.5°	75.6	91.1	102.7	107.2	91.6	88.5	79.4	59.5	42.4	33.8	30.3
49°	67.2	82.2	92.9	96.7	82.1	78.6	70.4	52.1	36.5	28.3	25.3
49.5°	59.4	73.7	83.4	87.0	72.6	68.7	62.5	45.3	31.1	23.4	21.0
50°	52.3	65.6	74.2	77.5	63.2	59.7	54.4	38.8	26.1	19.3	17.3
50.5°	45.6	57.6	65.7	68.4	54.9	51.5	47.0	32.9	21.7	15.9	14.2
51°	39.3	50.0	57.1	60.0	47.4	43.6	39.9	27.7	17.8	13.7	12.2
51.5°	33.9	42.8	49.2	51.9	40.4	36.8	33.6	22.9	15.3	11.3	10.1
52°	29.3	36.2	42.1	44.5	33.8	30.4	27.3	18.6	12.9	9.1	8.1
52.5°	24.7	31.4	35.1	37.5	27.8	24.7	21.9	15.9	10.4	6.8	6.0
53°	20.1	26.5	30.2	32.4	22.3	19.8	17.2	13.3	8.0	4.6	4.0
53.5°	15.5	21.6	25.3	27.3	17.5	15.7	14.4	10.7	5.5	3.4	2.9
54°	12.3	16.7	20.4	22.3	14.6	13.1	11.6	8.2	3.1	2.5	2.1
54.5°	9.3	11.9	15.5	17.2	11.7	10.5	9.0	5.5	2.2	1.9	1.8
55°	6.8	8.7	10.6	12.2	8.9	8.0	6.2	3.0	1.9	1.7	1.7
55.5°	4.7	6.2	7.7	8.9	5.9	5.4	3.5	2.1	1.7	1.7	1.6
56°	3.2	4.2	5.2	6.2	3.1	2.9	2.5	1.8	1.7	1.6	1.5
56.5°	2.8	3.7	3.5	4.1	2.2	2.1	1.9	1.7	1.6	1.5	1.5
57°	2.3	3.2	3.1	3.5	1.9	1.8	1.8	1.7	1.5	1.5	1.4
57.5°	1.9	2.7	2.6	2.9	1.8	1.7	1.7	1.6	1.5	1.4	1.3
58°	1.6	2.1	2.1	2.3	1.7	1.7	1.6	1.5	1.4	1.3	1.3
58.5°	1.5	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.3	1.3	1.2
59°	1.4	1.5	1.6	1.6	1.5	1.5	1.5	1.4	1.3	1.2	1.2
59.5°	1.4	1.5	1.5	1.6	1.5	1.5	1.4	1.3	1.2	1.2	1.1
60°	1.3	1.4	1.5	1.5	1.4	1.4	1.4	1.3	1.2	1.1	1.1
60.5°	1.2	1.3	1.4	1.4	1.3	1.3	1.3	1.2	1.1	1.1	1.0
61°	1.2	1.3	1.3	1.4	1.3	1.3	1.2	1.1	1.0	1.0	1.0
61.5°	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.1	1.0	1.0	0.9
62°	1.1	1.1	1.2	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.9
62.5°	1.0	1.1	1.1	1.2	1.1	1.1	1.1	1.0	0.9	0.9	0.8
63°	1.0	1.0	1.1	1.1	1.0	1.0	1.0	0.9	0.9	0.8	0.8
63.5°	0.9	1.0	1.0	1.1	1.0	1.0	1.0	0.9	0.8	0.8	0.8
64°	0.9	0.9	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.7
64.5°	0.8	0.9	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.7	0.7
65°	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7
65.5°	0.7	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6
66°	0.7	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.6	0.6	0.6



TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5
68°	0.6	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5
68.5°	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
69°	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4
69.5°	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
70.5°	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4
71°	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4
71.5°	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.3
72°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
72.5°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73°	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
73.5°	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
74°	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2
74.5°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75°	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
75.5°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76°	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
77.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2
78°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
78.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
79°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
79.5°	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
82°	0.1	0.1	0.1	0.1	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	0.0	0.0	0.0
83°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
83.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
84°	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.1	0.0	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	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: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-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: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	545.0	545.0	545.0	545.0	545.0	545.0
0.5°	543.7	544.8	544.7	544.7	545.1	545.1
1°	542.9	544.1	544.1	544.3	544.9	545.3
1.5°	542.0	543.4	543.4	543.8	544.6	545.3
2°	541.0	542.6	542.7	543.2	544.3	545.3
2.5°	539.8	541.6	541.8	542.4	543.9	545.1
3°	538.7	540.5	540.9	541.6	543.3	544.8
3.5°	537.4	539.4	539.7	540.6	542.6	544.5
4°	535.9	538.2	538.6	539.6	541.9	544.1
4.5°	534.5	536.9	537.4	538.5	541.1	543.6
5°	533.1	535.4	536.1	537.3	540.1	542.9
5.5°	531.4	534.0	534.6	536.1	539.0	542.2
6°	529.6	532.4	533.0	534.6	537.9	541.4
6.5°	527.8	530.7	531.5	533.1	536.8	540.3
7°	525.9	529.0	529.8	531.6	535.4	539.3
7.5°	523.9	527.2	528.0	529.9	534.0	538.2
8°	521.8	525.2	526.1	528.1	532.5	537.1
8.5°	519.6	523.1	524.1	526.4	530.9	535.7
9°	517.3	520.9	522.1	524.4	529.3	534.3
9.5°	514.9	518.8	519.9	522.3	527.6	532.9
10°	512.7	516.4	517.7	520.2	525.6	531.3
10.5°	510.1	514.2	515.4	518.0	523.7	529.6
11°	507.6	511.6	513.0	515.8	521.6	527.9
11.5°	504.9	509.2	510.5	513.5	519.6	526.1
12°	502.2	506.6	508.0	511.0	517.5	524.2
12.5°	499.4	503.9	505.4	508.5	515.1	522.1
13°	496.5	501.2	502.8	505.9	512.7	520.0
13.5°	493.6	498.4	500.0	503.3	510.4	517.9
14°	490.6	495.5	497.3	500.6	507.9	515.6
14.5°	487.7	492.6	494.4	497.9	505.4	513.3
15°	484.5	489.5	491.3	495.0	502.7	510.9
15.5°	481.3	486.5	488.4	492.0	500.0	508.5
16°	478.2	483.4	485.2	489.1	497.3	505.8
16.5°	474.8	480.1	482.0	486.1	494.4	503.2
17°	471.5	476.9	478.9	483.1	491.4	500.5
17.5°	468.0	473.6	475.6	479.8	488.5	497.8
18°	464.6	470.2	472.3	476.6	485.5	495.0
18.5°	461.2	466.7	468.9	473.3	482.3	492.1
19°	457.5	463.3	465.4	469.9	479.2	489.0
19.5°	453.9	459.7	461.9	466.5	476.0	486.0
20°	450.1	456.1	458.2	463.0	472.6	483.0
20.5°	446.4	452.3	454.7	459.6	469.4	479.8
21°	442.6	448.5	450.9	455.9	465.9	476.7

TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	430.8	437.0	439.5	444.8	455.5	466.6
23°	426.7	433.0	435.6	441.0	451.7	463.1
23.5°	422.7	428.9	431.6	437.1	448.0	459.6
24°	418.5	424.9	427.6	433.2	444.3	455.9
24.5°	414.5	420.8	423.6	429.2	440.6	452.3
25°	410.4	416.6	419.4	425.2	436.7	448.6
25.5°	406.2	412.5	415.5	421.2	432.8	444.9
26°	402.1	408.3	411.3	417.2	428.9	441.2
26.5°	398.0	404.2	407.2	413.1	425.0	437.3
27°	393.9	400.0	403.1	409.0	421.1	433.5
27.5°	390.0	396.0	399.0	405.2	417.1	429.7
28°	386.2	391.9	394.9	401.2	413.2	425.9
28.5°	382.3	388.0	391.1	397.3	409.2	421.9
29°	378.5	384.2	387.3	393.5	405.5	418.0
29.5°	374.6	380.3	383.4	389.8	401.8	414.3
30°	370.7	376.5	379.6	386.2	398.0	410.7
30.5°	366.6	372.5	375.7	382.3	394.4	407.0
31°	362.2	368.6	371.9	378.4	390.9	403.4
31.5°	355.7	364.4	367.7	374.5	387.2	399.7
32°	348.2	359.5	362.9	370.2	383.3	396.2
32.5°	339.7	352.4	356.1	364.9	379.3	392.6
33°	329.9	343.7	348.4	358.2	374.9	388.8
33.5°	319.7	334.2	339.8	349.5	368.7	384.7
34°	309.2	324.8	330.2	339.1	361.6	380.3
34.5°	298.7	314.9	319.8	328.6	353.4	374.4
35°	287.8	304.7	308.4	317.9	344.3	367.6
35.5°	276.4	294.4	296.8	307.3	335.1	360.1
36°	264.8	283.0	285.5	297.0	325.4	351.9
36.5°	252.8	271.6	273.8	286.7	315.0	343.6
37°	241.1	259.6	262.5	276.4	304.4	334.5
37.5°	229.2	247.7	251.4	265.6	293.3	324.9
38°	217.9	235.4	239.9	253.9	282.4	314.6
38.5°	206.6	223.5	228.8	242.3	271.2	303.8
39°	195.3	211.6	217.6	230.5	260.6	292.4
39.5°	184.2	199.5	206.2	218.6	249.5	280.9
40°	173.0	187.2	194.7	206.8	238.5	268.9
40.5°	161.7	175.4	183.4	195.8	226.7	256.8
41°	150.7	164.1	172.1	184.8	215.1	243.9
41.5°	140.1	153.1	161.2	174.2	202.9	231.2
42°	129.3	142.5	150.6	163.8	190.7	218.1
42.5°	119.4	131.9	140.1	153.2	178.7	205.5
43°	109.9	122.2	129.9	142.2	166.8	193.0
43.5°	101.5	112.5	119.9	131.5	155.1	181.0



TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	76.6	86.4	91.1	101.0	121.3	146.0
45.5°	68.3	78.5	82.4	91.6	110.6	135.3
46°	60.5	71.0	74.2	82.5	100.3	124.4
46.5°	53.9	63.8	66.3	73.4	90.3	113.7
47°	47.7	57.3	58.9	64.8	80.6	103.5
47.5°	42.0	51.0	51.9	56.6	71.7	93.7
48°	36.5	45.0	45.4	48.5	63.3	84.4
48.5°	31.3	39.5	39.4	41.3	55.6	75.6
49°	26.8	34.7	34.4	34.5	48.5	67.2
49.5°	22.6	30.4	30.0	29.9	42.0	59.4
50°	18.8	26.2	25.5	25.4	35.8	52.3
50.5°	15.4	22.0	21.1	20.8	31.4	45.6
51°	13.1	17.8	16.6	16.3	27.1	39.3
51.5°	10.7	14.5	13.5	13.4	22.7	33.9
52°	8.5	11.6	10.8	10.8	18.2	29.3
52.5°	6.1	9.0	8.4	8.7	13.9	24.7
53°	3.8	6.6	6.3	6.7	11.0	20.1
53.5°	2.6	4.7	4.6	5.0	8.6	15.5
54°	1.9	3.2	3.2	3.6	6.4	12.3
54.5°	1.7	2.8	2.8	3.1	4.7	9.3
55°	1.6	2.3	2.3	2.6	3.3	6.8
55.5°	1.5	1.9	1.9	2.0	2.9	4.7
56°	1.5	1.5	1.5	1.6	2.5	3.2
56.5°	1.4	1.5	1.4	1.5	1.9	2.8
57°	1.3	1.4	1.4	1.4	1.5	2.3
57.5°	1.3	1.3	1.3	1.4	1.5	1.9
58°	1.2	1.3	1.3	1.3	1.4	1.6
58.5°	1.2	1.2	1.2	1.2	1.4	1.5
59°	1.1	1.2	1.1	1.2	1.3	1.4
59.5°	1.1	1.1	1.1	1.1	1.2	1.4
60°	1.0	1.0	1.0	1.0	1.2	1.3
60.5°	1.0	1.0	1.0	1.0	1.1	1.2
61°	0.9	0.9	0.9	0.9	1.0	1.2
61.5°	0.9	0.9	0.9	0.9	1.0	1.1
62°	0.8	0.9	0.8	0.9	0.9	1.1
62.5°	0.8	0.8	0.8	0.8	0.9	1.0
63°	0.7	0.8	0.8	0.8	0.8	1.0
63.5°	0.7	0.7	0.7	0.7	0.8	0.9
64°	0.7	0.7	0.7	0.7	0.8	0.9
64.5°	0.6	0.7	0.6	0.7	0.7	0.8
65°	0.6	0.6	0.6	0.6	0.7	0.8
65.5°	0.6	0.6	0.6	0.6	0.7	0.7
66°	0.6	0.6	0.6	0.6	0.6	0.7



TEST NUMBER: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.5	0.5	0.5	0.5	0.5	0.6
68°	0.5	0.5	0.4	0.5	0.5	0.6
68.5°	0.4	0.4	0.4	0.4	0.5	0.5
69°	0.4	0.4	0.4	0.4	0.5	0.5
69.5°	0.4	0.4	0.4	0.4	0.4	0.5
70°	0.4	0.4	0.4	0.4	0.4	0.5
70.5°	0.3	0.4	0.3	0.3	0.4	0.4
71°	0.3	0.3	0.3	0.3	0.4	0.4
71.5°	0.3	0.3	0.3	0.3	0.3	0.4
72°	0.3	0.3	0.3	0.3	0.3	0.4
72.5°	0.3	0.3	0.3	0.3	0.3	0.3
73°	0.3	0.3	0.3	0.3	0.3	0.3
73.5°	0.2	0.2	0.2	0.2	0.3	0.3
74°	0.2	0.2	0.2	0.2	0.3	0.3
74.5°	0.2	0.2	0.2	0.2	0.2	0.3
75°	0.2	0.2	0.2	0.2	0.2	0.3
75.5°	0.2	0.2	0.2	0.2	0.2	0.2
76°	0.2	0.2	0.2	0.2	0.2	0.2
76.5°	0.2	0.2	0.2	0.2	0.2	0.2
77°	0.2	0.2	0.1	0.1	0.2	0.2
77.5°	0.1	0.1	0.1	0.1	0.2	0.2
78°	0.1	0.1	0.1	0.1	0.1	0.2
78.5°	0.1	0.1	0.1	0.1	0.1	0.2
79°	0.1	0.1	0.1	0.1	0.1	0.1
79.5°	0.1	0.1	0.1	0.1	0.1	0.1
80°	0.1	0.1	0.1	0.1	0.1	0.1
80.5°	0.1	0.1	0.1	0.1	0.1	0.1
81°	0.1	0.1	0.1	0.1	0.1	0.1
81.5°	0.1	0.1	0.1	0.1	0.1	0.1
82°	0.1	0.1	0.1	0.1	0.1	0.1
82.5°	0.0	0.1	0.1	0.0	0.1	0.1
83°	0.0	0.0	0.0	0.0	0.0	0.1
83.5°	0.0	0.0	0.0	0.0	0.0	0.1
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	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: P775756

CATALOG NUMBER: HCDJBL510CSD-HCD62TRMB-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°	473.4	479.9	484.9	487.3	482.2	479.6	474.2	464.0	453.1	446.7	441.6
22°	469.9	476.7	481.9	484.2	479.0	476.2	470.8	460.5	449.6	442.9	437.7



44°	169.1	185.5	200.8	210.8	193.6	186.1	171.3	142.8	118.2	109.7	101.2
44.5°	157.5	173.7	189.2	198.6	180.9	174.6	160.3	132.5	107.7	100.3	92.0



66.5°	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.6
67°	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.5



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°	438.7	444.7	447.2	452.2	462.5	473.4
22°	434.7	440.7	443.3	448.5	459.0	469.9



44°	93.2	103.4	109.9	121.0	143.8	169.1
44.5°	84.8	94.7	100.5	111.0	132.3	157.5

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66.5°	0.5	0.5	0.5	0.5	0.6	0.7
67°	0.5	0.5	0.5	0.5	0.6	0.6

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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)