

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: P775906

Luminaire Tested: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775906
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B024-HCD8TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K
Description: 8 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 748.4 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.28
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

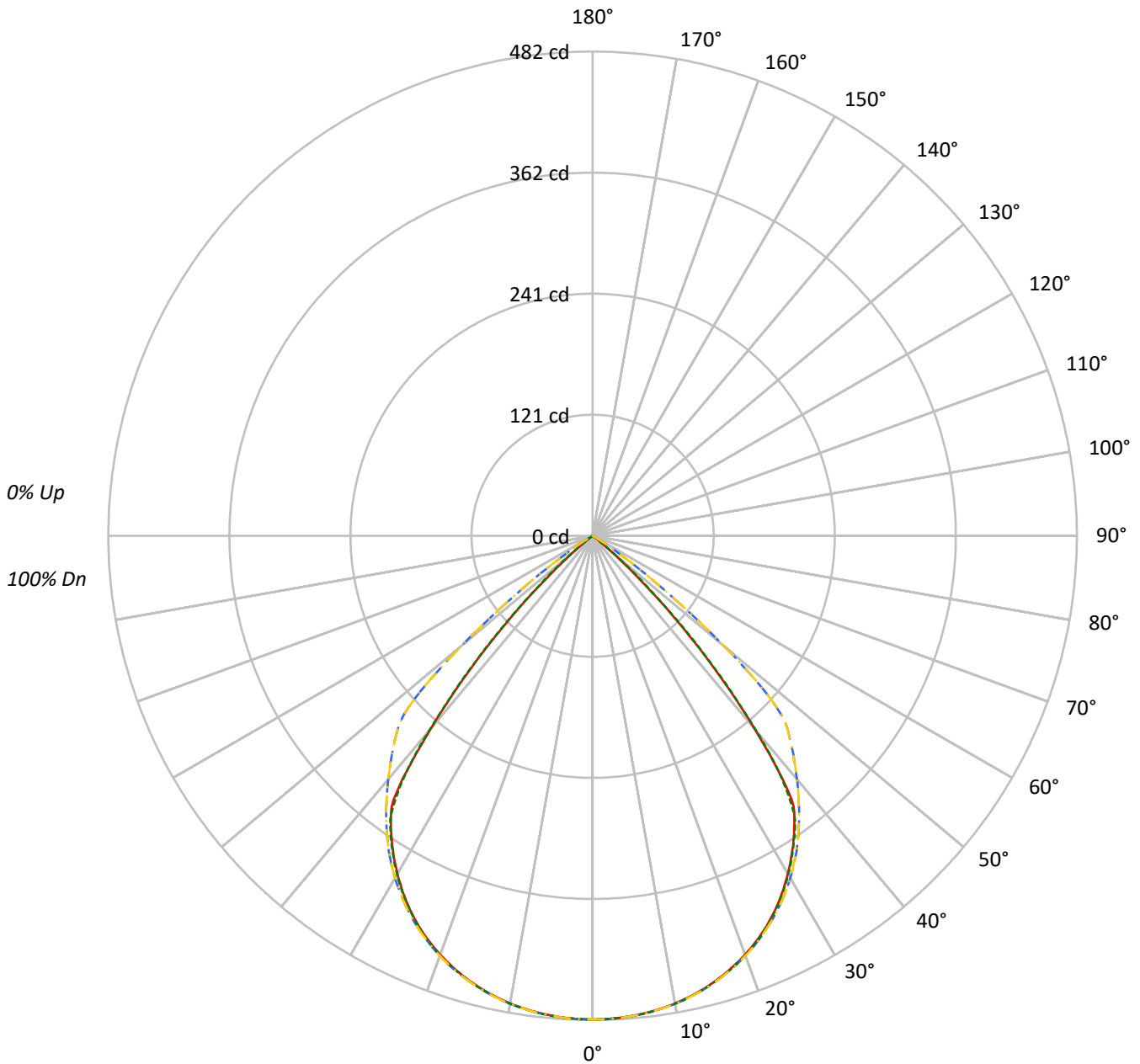
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92						92													
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84						84													
3	100	92	87	82	98	91	86	81	88	84	80	86	82	79	83	80	77	76						76													
4	93	85	78	73	91	84	78	73	81	76	72	79	75	71	77	74	70	69						69													
5	88	78	71	66	86	77	71	66	75	70	65	73	68	65	72	67	64	62						62													
6	82	72	65	60	81	71	64	60	69	64	59	68	63	59	67	62	58	57						57													
7	77	66	59	55	76	66	59	54	64	58	54	63	58	54	62	57	53	52						52													
8	72	62	55	50	71	61	54	50	60	54	50	59	53	49	58	53	49	47						47													
9	68	57	50	46	67	57	50	46	56	50	45	55	49	45	54	49	45	44						44													
10	64	53	47	42	63	53	46	42	52	46	42	51	46	42	50	45	42	40						40													

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	11548	11548	11548	11548
5°	11537	11544	11537	11544
10°	11509	11517	11509	11517
15°	11442	11451	11442	11451
20°	11325	11335	11325	11335
25°	11112	11125	11112	11125
30°	10757	10779	10757	10779
35°	10248	10280	10248	10280
40°	7857	7922	7857	7922
45°	3896	3995	3896	3995
50°	858	1045	858	1045
55°	13	17	13	17
60°	10	14	10	14
65°	11	11	11	11
70°	7	7	7	7
75°	9	9	9	9
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 9329 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.6	6.1
10°-20°	130.1	17.4
20°-30°	193.7	25.9
30°-40°	219.1	29.3
40°-50°	139.8	18.7
50°-60°	19.8	2.6
60°-70°	0.2	0.0
70°-80°	0.1	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°	369.4	49.4
0°-40°	588.5	78.6
0°-60°	748.2	100.0
0°-90°	748.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	748.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	482	482	482	482	482	
5°	479	480	479	480	479	46
15°	461	461	461	461	461	130
25°	420	420	420	420	420	193
35°	350	351	350	351	350	213
45°	115	118	115	118	115	92
55°	0	0	0	0	0	3
65°	0	0	0	0	0	0
75°	0	0	0	0	0	0
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°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
0.5°	481.4	481.5	481.6	481.7	481.7	481.7	481.6	481.5	481.4	481.5	481.6
1°	481.3	481.4	481.5	481.6	481.6	481.6	481.5	481.4	481.3	481.4	481.5
1.5°	481.2	481.3	481.4	481.5	481.5	481.5	481.4	481.3	481.2	481.3	481.4
2°	481.1	481.1	481.3	481.4	481.3	481.4	481.3	481.1	481.1	481.1	481.3
2.5°	480.9	481.0	481.1	481.2	481.2	481.2	481.1	481.0	480.9	481.0	481.1
3°	480.7	480.7	480.9	481.0	480.9	481.0	480.9	480.7	480.7	480.7	480.9
3.5°	480.4	480.5	480.6	480.7	480.7	480.7	480.6	480.5	480.4	480.5	480.6
4°	480.1	480.2	480.3	480.4	480.3	480.4	480.3	480.2	480.1	480.2	480.3
4.5°	479.7	479.8	479.9	480.0	480.0	480.0	479.9	479.8	479.7	479.8	479.9
5°	479.3	479.4	479.6	479.6	479.6	479.6	479.6	479.4	479.3	479.4	479.6
5.5°	478.9	479.0	479.1	479.2	479.1	479.2	479.1	479.0	478.9	479.0	479.1
6°	478.4	478.5	478.6	478.7	478.7	478.7	478.6	478.5	478.4	478.5	478.6
6.5°	477.9	478.0	478.1	478.2	478.1	478.2	478.1	478.0	477.9	478.0	478.1
7°	477.2	477.4	477.6	477.6	477.6	477.6	477.6	477.4	477.2	477.4	477.6
7.5°	476.6	476.7	476.8	476.9	476.8	476.9	476.8	476.7	476.6	476.7	476.8
8°	475.9	476.0	476.2	476.2	476.2	476.2	476.2	476.0	475.9	476.0	476.2
8.5°	475.2	475.3	475.5	475.5	475.4	475.5	475.5	475.3	475.2	475.3	475.5
9°	474.4	474.5	474.7	474.8	474.7	474.8	474.7	474.5	474.4	474.5	474.7
9.5°	473.6	473.7	473.9	474.0	473.8	474.0	473.9	473.7	473.6	473.7	473.9
10°	472.7	472.9	473.1	473.1	473.0	473.1	473.1	472.9	472.7	472.9	473.1
10.5°	471.7	471.9	472.1	472.1	472.0	472.1	472.1	471.9	471.7	471.9	472.1
11°	470.7	470.9	471.2	471.1	471.0	471.1	471.2	470.9	470.7	470.9	471.2
11.5°	469.7	469.9	470.2	470.1	470.0	470.1	470.2	469.9	469.7	469.9	470.2
12°	468.6	468.8	469.1	469.1	468.9	469.1	469.1	468.8	468.6	468.8	469.1
12.5°	467.5	467.7	468.0	468.0	467.8	468.0	468.0	467.7	467.5	467.7	468.0
13°	466.2	466.5	466.8	466.8	466.6	466.8	466.8	466.5	466.2	466.5	466.8
13.5°	465.0	465.3	465.6	465.6	465.4	465.6	465.6	465.3	465.0	465.3	465.6
14°	463.7	464.0	464.3	464.3	464.1	464.3	464.3	464.0	463.7	464.0	464.3
14.5°	462.4	462.7	463.0	463.0	462.8	463.0	463.0	462.7	462.4	462.7	463.0
15°	460.9	461.2	461.6	461.5	461.3	461.5	461.6	461.2	460.9	461.2	461.6
15.5°	459.5	459.8	460.2	460.1	459.9	460.1	460.2	459.8	459.5	459.8	460.2
16°	458.0	458.3	458.7	458.7	458.4	458.7	458.7	458.3	458.0	458.3	458.7
16.5°	456.4	456.7	457.2	457.2	456.8	457.2	457.2	456.7	456.4	456.7	457.2
17°	454.7	455.1	455.6	455.5	455.2	455.5	455.6	455.1	454.7	455.1	455.6
17.5°	453.1	453.5	453.9	453.9	453.6	453.9	453.9	453.5	453.1	453.5	453.9
18°	451.3	451.7	452.3	452.2	451.7	452.2	452.3	451.7	451.3	451.7	452.3
18.5°	449.5	450.0	450.4	450.3	449.9	450.3	450.4	450.0	449.5	450.0	450.4
19°	447.7	448.2	448.6	448.5	448.1	448.5	448.6	448.2	447.7	448.2	448.6
19.5°	445.7	446.2	446.7	446.6	446.2	446.6	446.7	446.2	445.7	446.2	446.7
20°	443.8	444.3	444.8	444.7	444.2	444.7	444.8	444.3	443.8	444.3	444.8
20.5°	441.6	442.3	442.9	442.7	442.2	442.7	442.9	442.3	441.6	442.3	442.9
21°	439.5	440.2	440.8	440.6	440.0	440.6	440.8	440.2	439.5	440.2	440.8



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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°	432.8	433.6	434.3	434.0	433.3	434.0	434.3	433.6	432.8	433.6	434.3
23°	430.3	431.2	432.1	431.6	430.8	431.6	432.1	431.2	430.3	431.2	432.1
23.5°	427.9	428.9	429.7	429.2	428.4	429.2	429.7	428.9	427.9	428.9	429.7
24°	425.4	426.3	427.3	426.7	425.8	426.7	427.3	426.3	425.4	426.3	427.3
24.5°	422.8	423.8	424.8	424.2	423.3	424.2	424.8	423.8	422.8	423.8	424.8
25°	420.0	421.2	422.3	421.5	420.5	421.5	422.3	421.2	420.0	421.2	422.3
25.5°	417.2	418.6	419.7	418.9	417.8	418.9	419.7	418.6	417.2	418.6	419.7
26°	414.4	415.8	417.1	416.1	415.0	416.1	417.1	415.8	414.4	415.8	417.1
26.5°	411.3	413.0	414.3	413.3	412.1	413.3	414.3	413.0	411.3	413.0	414.3
27°	408.4	410.0	411.5	410.3	409.0	410.3	411.5	410.0	408.4	410.0	411.5
27.5°	405.3	407.1	408.7	407.4	405.9	407.4	408.7	407.1	405.3	407.1	408.7
28°	402.1	404.0	405.7	404.3	402.8	404.3	405.7	404.0	402.1	404.0	405.7
28.5°	398.8	400.8	402.8	401.2	399.5	401.2	402.8	400.8	398.8	400.8	402.8
29°	395.4	397.6	399.7	398.0	396.2	398.0	399.7	397.6	395.4	397.6	399.7
29.5°	392.1	394.3	396.6	394.7	392.8	394.7	396.6	394.3	392.1	394.3	396.6
30°	388.5	390.9	393.4	391.4	389.3	391.4	393.4	390.9	388.5	390.9	393.4
30.5°	384.9	387.6	390.1	388.0	385.8	388.0	390.1	387.6	384.9	387.6	390.1
31°	381.3	384.0	386.8	384.5	382.3	384.5	386.8	384.0	381.3	384.0	386.8
31.5°	377.7	380.5	383.4	381.0	378.5	381.0	383.4	380.5	377.7	380.5	383.4
32°	374.0	377.0	379.9	377.5	374.8	377.5	379.9	377.0	374.0	377.0	379.9
32.5°	370.2	373.3	376.4	373.8	371.0	373.8	376.4	373.3	370.2	373.3	376.4
33°	366.4	369.6	372.8	370.1	367.3	370.1	372.8	369.6	366.4	369.6	372.8
33.5°	362.4	365.8	369.0	366.5	363.4	366.5	369.0	365.8	362.4	365.8	369.0
34°	358.3	362.2	365.2	362.7	359.4	362.7	365.2	362.2	358.3	362.2	365.2
34.5°	354.2	358.3	361.5	358.8	355.3	358.8	361.5	358.3	354.2	358.3	361.5
35°	350.1	354.4	357.5	354.9	351.2	354.9	357.5	354.4	350.1	354.4	357.5
35.5°	345.8	350.5	353.6	351.0	346.9	351.0	353.6	350.5	345.8	350.5	353.6
36°	341.6	346.6	349.6	347.1	340.0	347.1	349.6	346.6	341.6	346.6	349.6
36.5°	336.5	342.4	345.5	343.0	332.5	343.0	345.5	342.4	336.5	342.4	345.5
37°	329.4	338.2	341.5	338.9	323.6	338.9	341.5	338.2	329.4	338.2	341.5
37.5°	318.7	334.0	337.3	334.6	315.0	334.6	337.3	334.0	318.7	334.0	337.3
38°	307.1	329.8	333.1	329.8	305.2	329.8	333.1	329.8	307.1	329.8	333.1
38.5°	293.3	325.3	328.9	323.0	294.0	323.0	328.9	325.3	293.3	325.3	328.9
39°	279.3	319.4	324.8	315.0	281.5	315.0	324.8	319.4	279.3	319.4	324.8
39.5°	265.1	311.4	320.5	306.8	267.5	306.8	320.5	311.4	265.1	311.4	320.5
40°	251.0	301.0	316.3	297.8	253.1	297.8	316.3	301.0	251.0	301.0	316.3
40.5°	236.7	288.8	312.2	287.7	238.4	287.7	312.2	288.8	236.7	288.8	312.2
41°	222.2	275.7	308.0	276.5	224.3	276.5	308.0	275.7	222.2	275.7	308.0
41.5°	208.2	262.4	303.9	264.1	210.5	264.1	303.9	262.4	208.2	262.4	303.9
42°	194.0	249.0	299.8	250.8	196.9	250.8	299.8	249.0	194.0	249.0	299.8
42.5°	180.4	235.8	295.8	237.2	183.4	237.2	295.8	235.8	180.4	235.8	295.8
43°	166.7	222.2	291.7	223.4	169.8	223.4	291.7	222.2	166.7	222.2	291.7
43.5°	153.3	208.6	287.5	210.2	156.2	210.2	287.5	208.6	153.3	208.6	287.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	114.9	168.8	275.1	171.4	117.8	171.4	275.1	168.8	114.9	168.8	275.1
45.5°	102.7	156.1	271.0	158.4	106.0	158.4	271.0	156.1	102.7	156.1	271.0
46°	91.3	143.5	265.6	145.9	94.7	145.9	265.6	143.5	91.3	143.5	265.6
46.5°	80.2	131.1	259.2	133.5	83.7	133.5	259.2	131.1	80.2	131.1	259.2
47°	69.2	118.9	250.4	121.4	74.0	121.4	250.4	118.9	69.2	118.9	250.4
47.5°	58.7	106.9	240.5	109.7	65.7	109.7	240.5	106.9	58.7	106.9	240.5
48°	49.5	95.7	228.5	98.3	57.5	98.3	228.5	95.7	49.5	95.7	228.5
48.5°	41.1	84.9	215.5	87.5	49.4	87.5	215.5	84.9	41.1	84.9	215.5
49°	34.7	74.2	200.7	77.2	41.2	77.2	200.7	74.2	34.7	74.2	200.7
49.5°	28.7	63.8	185.7	67.6	34.0	67.6	185.7	63.8	28.7	63.8	185.7
50°	23.0	54.0	170.2	59.3	28.0	59.3	170.2	54.0	23.0	54.0	170.2
50.5°	18.3	45.2	155.0	51.4	22.0	51.4	155.0	45.2	18.3	45.2	155.0
51°	13.7	37.7	140.2	43.9	16.7	43.9	140.2	37.7	13.7	37.7	140.2
51.5°	9.8	31.5	126.4	36.8	13.2	36.8	126.4	31.5	9.8	31.5	126.4
52°	5.9	25.6	112.9	30.4	10.5	30.4	112.9	25.6	5.9	25.6	112.9
52.5°	2.1	20.6	100.0	24.6	7.9	24.6	100.0	20.6	2.1	20.6	100.0
53°	1.2	16.0	87.6	19.6	5.3	19.6	87.6	16.0	1.2	16.0	87.6
53.5°	0.9	11.8	76.7	14.9	3.1	14.9	76.7	11.8	0.9	11.8	76.7
54°	0.6	8.2	66.4	10.9	0.8	10.9	66.4	8.2	0.6	8.2	66.4
54.5°	0.3	4.5	56.8	8.2	0.4	8.2	56.8	4.5	0.3	4.5	56.8
55°	0.3	1.5	48.2	5.5	0.4	5.5	48.2	1.5	0.3	1.5	48.2
55.5°	0.3	0.9	39.9	3.4	0.4	3.4	39.9	0.9	0.3	0.9	39.9
56°	0.3	0.7	32.6	2.0	0.3	2.0	32.6	0.7	0.3	0.7	32.6
56.5°	0.3	0.4	26.9	0.8	0.3	0.8	26.9	0.4	0.3	0.4	26.9
57°	0.3	0.3	21.5	0.5	0.3	0.5	21.5	0.3	0.3	0.3	21.5
57.5°	0.3	0.3	16.7	0.3	0.3	0.3	16.7	0.3	0.3	0.3	16.7
58°	0.3	0.3	12.4	0.3	0.3	0.3	12.4	0.3	0.3	0.3	12.4
58.5°	0.2	0.2	9.0	0.3	0.3	0.3	9.0	0.2	0.2	0.2	9.0
59°	0.2	0.2	6.8	0.2	0.3	0.2	6.8	0.2	0.2	0.2	6.8
59.5°	0.2	0.2	5.0	0.2	0.3	0.2	5.0	0.2	0.2	0.2	5.0
60°	0.2	0.2	3.3	0.2	0.3	0.2	3.3	0.2	0.2	0.2	3.3
60.5°	0.2	0.2	1.9	0.2	0.2	0.2	1.9	0.2	0.2	0.2	1.9
61°	0.2	0.2	1.2	0.2	0.2	0.2	1.2	0.2	0.2	0.2	1.2
61.5°	0.2	0.2	0.7	0.2	0.2	0.2	0.7	0.2	0.2	0.2	0.7
62°	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3
62.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
63°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
63.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
64°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
64.5°	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
65°	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1
65.5°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
66°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1



TEST NUMBER: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
68°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
68.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
69.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
70°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
70.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
77°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
77.5°	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0
78°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-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: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	481.6	481.6	481.6	481.6	481.6	481.6
0.5°	481.7	481.7	481.7	481.6	481.5	481.4
1°	481.6	481.6	481.6	481.5	481.4	481.3
1.5°	481.5	481.5	481.5	481.4	481.3	481.2
2°	481.4	481.3	481.4	481.3	481.1	481.1
2.5°	481.2	481.2	481.2	481.1	481.0	480.9
3°	481.0	480.9	481.0	480.9	480.7	480.7
3.5°	480.7	480.7	480.7	480.6	480.5	480.4
4°	480.4	480.3	480.4	480.3	480.2	480.1
4.5°	480.0	480.0	480.0	479.9	479.8	479.7
5°	479.6	479.6	479.6	479.6	479.4	479.3
5.5°	479.2	479.1	479.2	479.1	479.0	478.9
6°	478.7	478.7	478.7	478.6	478.5	478.4
6.5°	478.2	478.1	478.2	478.1	478.0	477.9
7°	477.6	477.6	477.6	477.6	477.4	477.2
7.5°	476.9	476.8	476.9	476.8	476.7	476.6
8°	476.2	476.2	476.2	476.2	476.0	475.9
8.5°	475.5	475.4	475.5	475.5	475.3	475.2
9°	474.8	474.7	474.8	474.7	474.5	474.4
9.5°	474.0	473.8	474.0	473.9	473.7	473.6
10°	473.1	473.0	473.1	473.1	472.9	472.7
10.5°	472.1	472.0	472.1	472.1	471.9	471.7
11°	471.1	471.0	471.1	471.2	470.9	470.7
11.5°	470.1	470.0	470.1	470.2	469.9	469.7
12°	469.1	468.9	469.1	469.1	468.8	468.6
12.5°	468.0	467.8	468.0	468.0	467.7	467.5
13°	466.8	466.6	466.8	466.8	466.5	466.2
13.5°	465.6	465.4	465.6	465.6	465.3	465.0
14°	464.3	464.1	464.3	464.3	464.0	463.7
14.5°	463.0	462.8	463.0	463.0	462.7	462.4
15°	461.5	461.3	461.5	461.6	461.2	460.9
15.5°	460.1	459.9	460.1	460.2	459.8	459.5
16°	458.7	458.4	458.7	458.7	458.3	458.0
16.5°	457.2	456.8	457.2	457.2	456.7	456.4
17°	455.5	455.2	455.5	455.6	455.1	454.7
17.5°	453.9	453.6	453.9	453.9	453.5	453.1
18°	452.2	451.7	452.2	452.3	451.7	451.3
18.5°	450.3	449.9	450.3	450.4	450.0	449.5
19°	448.5	448.1	448.5	448.6	448.2	447.7
19.5°	446.6	446.2	446.6	446.7	446.2	445.7
20°	444.7	444.2	444.7	444.8	444.3	443.8
20.5°	442.7	442.2	442.7	442.9	442.3	441.6
21°	440.6	440.0	440.6	440.8	440.2	439.5



TEST NUMBER: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	434.0	433.3	434.0	434.3	433.6	432.8
23°	431.6	430.8	431.6	432.1	431.2	430.3
23.5°	429.2	428.4	429.2	429.7	428.9	427.9
24°	426.7	425.8	426.7	427.3	426.3	425.4
24.5°	424.2	423.3	424.2	424.8	423.8	422.8
25°	421.5	420.5	421.5	422.3	421.2	420.0
25.5°	418.9	417.8	418.9	419.7	418.6	417.2
26°	416.1	415.0	416.1	417.1	415.8	414.4
26.5°	413.3	412.1	413.3	414.3	413.0	411.3
27°	410.3	409.0	410.3	411.5	410.0	408.4
27.5°	407.4	405.9	407.4	408.7	407.1	405.3
28°	404.3	402.8	404.3	405.7	404.0	402.1
28.5°	401.2	399.5	401.2	402.8	400.8	398.8
29°	398.0	396.2	398.0	399.7	397.6	395.4
29.5°	394.7	392.8	394.7	396.6	394.3	392.1
30°	391.4	389.3	391.4	393.4	390.9	388.5
30.5°	388.0	385.8	388.0	390.1	387.6	384.9
31°	384.5	382.3	384.5	386.8	384.0	381.3
31.5°	381.0	378.5	381.0	383.4	380.5	377.7
32°	377.5	374.8	377.5	379.9	377.0	374.0
32.5°	373.8	371.0	373.8	376.4	373.3	370.2
33°	370.1	367.3	370.1	372.8	369.6	366.4
33.5°	366.5	363.4	366.5	369.0	365.8	362.4
34°	362.7	359.4	362.7	365.2	362.2	358.3
34.5°	358.8	355.3	358.8	361.5	358.3	354.2
35°	354.9	351.2	354.9	357.5	354.4	350.1
35.5°	351.0	346.9	351.0	353.6	350.5	345.8
36°	347.1	340.0	347.1	349.6	346.6	341.6
36.5°	343.0	332.5	343.0	345.5	342.4	336.5
37°	338.9	323.6	338.9	341.5	338.2	329.4
37.5°	334.6	315.0	334.6	337.3	334.0	318.7
38°	329.8	305.2	329.8	333.1	329.8	307.1
38.5°	323.0	294.0	323.0	328.9	325.3	293.3
39°	315.0	281.5	315.0	324.8	319.4	279.3
39.5°	306.8	267.5	306.8	320.5	311.4	265.1
40°	297.8	253.1	297.8	316.3	301.0	251.0
40.5°	287.7	238.4	287.7	312.2	288.8	236.7
41°	276.5	224.3	276.5	308.0	275.7	222.2
41.5°	264.1	210.5	264.1	303.9	262.4	208.2
42°	250.8	196.9	250.8	299.8	249.0	194.0
42.5°	237.2	183.4	237.2	295.8	235.8	180.4
43°	223.4	169.8	223.4	291.7	222.2	166.7
43.5°	210.2	156.2	210.2	287.5	208.6	153.3



TEST NUMBER: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	171.4	117.8	171.4	275.1	168.8	114.9
45.5°	158.4	106.0	158.4	271.0	156.1	102.7
46°	145.9	94.7	145.9	265.6	143.5	91.3
46.5°	133.5	83.7	133.5	259.2	131.1	80.2
47°	121.4	74.0	121.4	250.4	118.9	69.2
47.5°	109.7	65.7	109.7	240.5	106.9	58.7
48°	98.3	57.5	98.3	228.5	95.7	49.5
48.5°	87.5	49.4	87.5	215.5	84.9	41.1
49°	77.2	41.2	77.2	200.7	74.2	34.7
49.5°	67.6	34.0	67.6	185.7	63.8	28.7
50°	59.3	28.0	59.3	170.2	54.0	23.0
50.5°	51.4	22.0	51.4	155.0	45.2	18.3
51°	43.9	16.7	43.9	140.2	37.7	13.7
51.5°	36.8	13.2	36.8	126.4	31.5	9.8
52°	30.4	10.5	30.4	112.9	25.6	5.9
52.5°	24.6	7.9	24.6	100.0	20.6	2.1
53°	19.6	5.3	19.6	87.6	16.0	1.2
53.5°	14.9	3.1	14.9	76.7	11.8	0.9
54°	10.9	0.8	10.9	66.4	8.2	0.6
54.5°	8.2	0.4	8.2	56.8	4.5	0.3
55°	5.5	0.4	5.5	48.2	1.5	0.3
55.5°	3.4	0.4	3.4	39.9	0.9	0.3
56°	2.0	0.3	2.0	32.6	0.7	0.3
56.5°	0.8	0.3	0.8	26.9	0.4	0.3
57°	0.5	0.3	0.5	21.5	0.3	0.3
57.5°	0.3	0.3	0.3	16.7	0.3	0.3
58°	0.3	0.3	0.3	12.4	0.3	0.3
58.5°	0.3	0.3	0.3	9.0	0.2	0.2
59°	0.2	0.3	0.2	6.8	0.2	0.2
59.5°	0.2	0.3	0.2	5.0	0.2	0.2
60°	0.2	0.3	0.2	3.3	0.2	0.2
60.5°	0.2	0.2	0.2	1.9	0.2	0.2
61°	0.2	0.2	0.2	1.2	0.2	0.2
61.5°	0.2	0.2	0.2	0.7	0.2	0.2
62°	0.2	0.2	0.2	0.3	0.2	0.2
62.5°	0.2	0.2	0.2	0.2	0.2	0.2
63°	0.2	0.2	0.2	0.2	0.2	0.2
63.5°	0.2	0.2	0.2	0.2	0.2	0.2
64°	0.2	0.2	0.2	0.2	0.2	0.2
64.5°	0.2	0.2	0.2	0.2	0.2	0.2
65°	0.2	0.2	0.2	0.1	0.2	0.2
65.5°	0.1	0.2	0.1	0.1	0.1	0.1
66°	0.1	0.2	0.1	0.1	0.1	0.1



TEST NUMBER: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.1	0.1	0.1	0.1	0.1	0.1
68°	0.1	0.1	0.1	0.1	0.1	0.1
68.5°	0.1	0.1	0.1	0.1	0.1	0.1
69°	0.1	0.1	0.1	0.1	0.1	0.1
69.5°	0.1	0.1	0.1	0.1	0.1	0.1
70°	0.1	0.1	0.1	0.1	0.1	0.1
70.5°	0.1	0.1	0.1	0.1	0.1	0.1
71°	0.1	0.1	0.1	0.1	0.1	0.1
71.5°	0.1	0.1	0.1	0.1	0.1	0.1
72°	0.1	0.1	0.1	0.1	0.1	0.1
72.5°	0.1	0.1	0.1	0.1	0.1	0.1
73°	0.1	0.1	0.1	0.1	0.1	0.1
73.5°	0.1	0.1	0.1	0.1	0.1	0.1
74°	0.1	0.1	0.1	0.1	0.1	0.1
74.5°	0.1	0.1	0.1	0.1	0.1	0.1
75°	0.1	0.1	0.1	0.1	0.1	0.1
75.5°	0.1	0.1	0.1	0.1	0.1	0.1
76°	0.1	0.1	0.1	0.1	0.1	0.1
76.5°	0.1	0.1	0.1	0.0	0.1	0.1
77°	0.1	0.1	0.1	0.0	0.1	0.1
77.5°	0.1	0.1	0.1	0.0	0.1	0.0
78°	0.0	0.1	0.0	0.0	0.0	0.0
78.5°	0.0	0.0	0.0	0.0	0.0	0.0
79°	0.0	0.0	0.0	0.0	0.0	0.0
79.5°	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0
80.5°	0.0	0.0	0.0	0.0	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
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: P775906

CATALOG NUMBER: HCDJBL510CSD-HCD8TSQMB-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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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

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21.5°	437.4	438.1	438.7	438.5	437.9	438.5	438.7	438.1	437.4	438.1	438.7
22°	435.1	435.8	436.5	436.2	435.6	436.2	436.5	435.8	435.1	435.8	436.5



44°	140.1	195.3	283.4	197.1	143.0	197.1	283.4	195.3	140.1	195.3	283.4
44.5°	127.3	182.0	279.3	184.1	130.3	184.1	279.3	182.0	127.3	182.0	279.3



66.5°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
67°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1



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°	438.5	437.9	438.5	438.7	438.1	437.4
22°	436.2	435.6	436.2	436.5	435.8	435.1



44°	197.1	143.0	197.1	283.4	195.3	140.1
44.5°	184.1	130.3	184.1	279.3	182.0	127.3

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66.5°	0.1	0.2	0.1	0.1	0.1	0.1
67°	0.1	0.2	0.1	0.1	0.1	0.1

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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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(END OF REPORT)