

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: P775831

Luminaire Tested: HCDJBS510CSD-HCD81TRMB-1000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775831
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B045-HCD81TRMB)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD81TRMB-1000lm-3000K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1078.8 lumens
Efficiency: N/A
Efficacy: 107.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.26 / 1.37
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

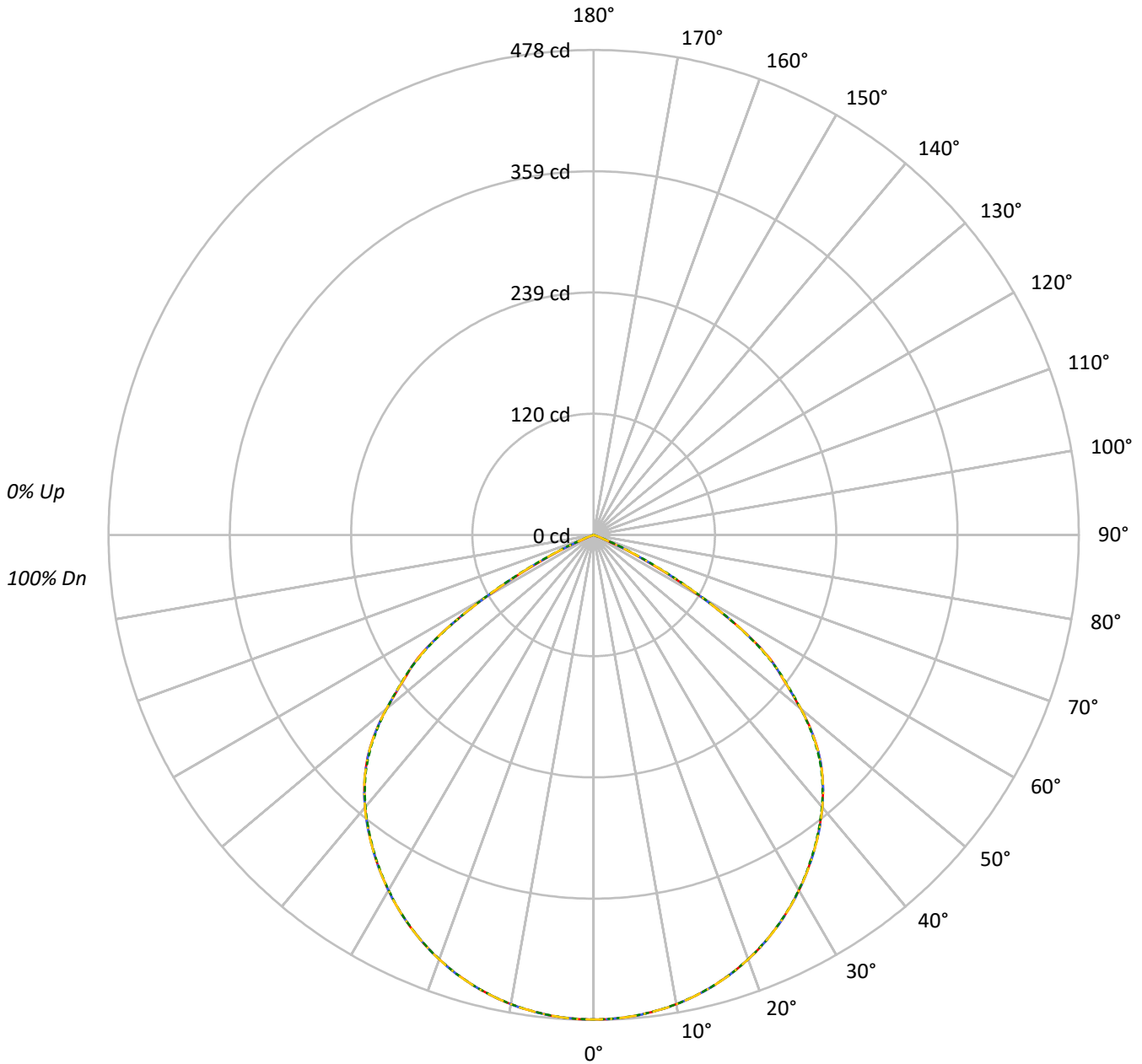
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100
1	111	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89			89
2	103	97	91	86	101	95	90	85	91	87	84	88	85	82	85	82	80	78			78
3	95	86	80	74	93	85	79	74	82	77	72	80	75	71	77	73	70	68			68
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59			59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	55	63	58	54	52			52
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46			46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41			41
8	65	53	45	39	64	52	45	39	51	44	39	50	43	39	48	43	39	37			37
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33			33
10	57	45	37	32	56	44	37	32	43	37	32	42	36	32	42	36	32	30			30

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14581	14581	14581	14581
5°	14579	14573	14579	14573
10°	14561	14558	14561	14558
15°	14524	14520	14524	14520
20°	14464	14461	14464	14461
25°	14374	14367	14374	14367
30°	14260	14249	14260	14249
35°	14126	14107	14126	14107
40°	13965	13937	13965	13937
45°	13648	13601	13648	13601
50°	12639	12639	12639	12639
55°	11252	11125	11252	11125
60°	7510	7620	7510	7620
65°	2658	3186	2658	3186
70°	27	303	27	303
75°	0	0	0	0
80°	0	0	0	0
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13648 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.2	4.2
10°-20°	129.7	12.0
20°-30°	196.6	18.2
30°-40°	237.0	22.0
40°-50°	241.7	22.4
50°-60°	181.6	16.8
60°-70°	46.9	4.3
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°	371.5	34.4
0°-40°	608.6	56.4
0°-60°	1031.8	95.6
0°-90°	1078.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1078.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	478	478	478	478	478	
5°	476	476	476	476	476	45
15°	460	459	460	459	460	130
25°	427	426	427	426	427	197
35°	379	378	379	378	379	237
45°	316	315	316	315	316	242
55°	211	209	211	209	211	182
65°	37	44	37	44	37	44
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°	477.6	477.6	477.6	477.6	477.6	477.6	477.6	477.6	477.6	477.6	477.6
0.5°	477.6	477.6	477.6	477.6	477.5	477.6	477.6	477.6	477.6	477.6	477.6
1°	477.6	477.6	477.6	477.5	477.4	477.5	477.6	477.6	477.6	477.6	477.6
1.5°	477.5	477.5	477.5	477.5	477.4	477.5	477.5	477.5	477.5	477.5	477.5
2°	477.4	477.4	477.4	477.3	477.2	477.3	477.4	477.4	477.4	477.4	477.4
2.5°	477.1	477.2	477.2	477.2	477.0	477.2	477.2	477.2	477.1	477.2	477.2
3°	476.9	477.0	477.0	477.0	476.8	477.0	477.0	477.0	476.9	477.0	477.0
3.5°	476.7	476.7	476.7	476.7	476.6	476.7	476.7	476.7	476.7	476.7	476.7
4°	476.4	476.4	476.4	476.4	476.2	476.4	476.4	476.4	476.4	476.4	476.4
4.5°	476.1	476.1	476.1	476.1	475.9	476.1	476.1	476.1	476.1	476.1	476.1
5°	475.7	475.7	475.7	475.7	475.5	475.7	475.7	475.7	475.7	475.7	475.7
5.5°	475.3	475.3	475.3	475.3	475.1	475.3	475.3	475.3	475.3	475.3	475.3
6°	474.8	474.9	474.8	474.8	474.7	474.8	474.8	474.9	474.8	474.9	474.8
6.5°	474.2	474.4	474.4	474.2	474.1	474.2	474.4	474.4	474.2	474.4	474.4
7°	473.7	473.7	473.7	473.7	473.6	473.7	473.7	473.7	473.7	473.7	473.7
7.5°	473.1	473.1	473.1	473.2	473.0	473.2	473.1	473.1	473.1	473.1	473.1
8°	472.5	472.5	472.5	472.5	472.4	472.5	472.5	472.5	472.5	472.5	472.5
8.5°	471.9	471.9	471.9	471.9	471.7	471.9	471.9	471.9	471.9	471.9	471.9
9°	471.2	471.2	471.2	471.2	471.1	471.2	471.2	471.2	471.2	471.2	471.2
9.5°	470.4	470.5	470.5	470.5	470.3	470.5	470.5	470.5	470.4	470.5	470.5
10°	469.7	469.7	469.7	469.7	469.6	469.7	469.7	469.7	469.7	469.7	469.7
10.5°	468.8	468.8	468.8	468.8	468.7	468.8	468.8	468.8	468.8	468.8	468.8
11°	467.9	467.9	467.9	468.0	467.8	468.0	467.9	467.9	467.9	467.9	467.9
11.5°	467.0	467.0	467.0	467.1	466.9	467.1	467.0	467.0	467.0	467.0	467.0
12°	466.1	466.1	466.1	466.1	466.0	466.1	466.1	466.1	466.1	466.1	466.1
12.5°	465.1	465.1	465.1	465.2	465.0	465.2	465.1	465.1	465.1	465.1	465.1
13°	464.0	464.0	464.0	464.0	463.9	464.0	464.0	464.0	464.0	464.0	464.0
13.5°	462.9	463.0	463.0	463.0	462.8	463.0	463.0	463.0	462.9	463.0	463.0
14°	461.8	461.9	461.9	461.9	461.7	461.9	461.9	461.9	461.8	461.9	461.9
14.5°	460.7	460.7	460.7	460.7	460.6	460.7	460.7	460.7	460.7	460.7	460.7
15°	459.5	459.5	459.5	459.6	459.4	459.6	459.5	459.5	459.5	459.5	459.5
15.5°	458.2	458.2	458.2	458.2	458.1	458.2	458.2	458.2	458.2	458.2	458.2
16°	456.9	457.0	457.0	457.0	456.8	457.0	457.0	457.0	456.9	457.0	457.0
16.5°	455.6	455.6	455.7	455.7	455.6	455.7	455.7	455.6	455.6	455.6	455.7
17°	454.3	454.3	454.4	454.3	454.2	454.3	454.4	454.3	454.3	454.3	454.4
17.5°	452.8	452.8	452.9	452.9	452.8	452.9	452.9	452.8	452.8	452.8	452.9
18°	451.4	451.4	451.4	451.4	451.3	451.4	451.4	451.4	451.4	451.4	451.4
18.5°	449.9	449.9	450.0	450.0	449.8	450.0	450.0	449.9	449.9	449.9	450.0
19°	448.3	448.3	448.4	448.4	448.2	448.4	448.4	448.3	448.3	448.3	448.4
19.5°	446.8	446.8	446.8	446.8	446.7	446.8	446.8	446.8	446.8	446.8	446.8
20°	445.2	445.2	445.2	445.2	445.1	445.2	445.2	445.2	445.2	445.2	445.2
20.5°	443.4	443.5	443.5	443.5	443.3	443.5	443.5	443.5	443.4	443.5	443.5
21°	441.8	441.8	441.8	441.8	441.7	441.8	441.8	441.8	441.8	441.8	441.8



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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°	436.4	436.5	436.5	436.5	436.3	436.5	436.5	436.5	436.4	436.5	436.5
23°	434.6	434.6	434.6	434.6	434.5	434.6	434.6	434.6	434.6	434.6	434.6
23.5°	432.6	432.7	432.7	432.7	432.5	432.7	432.7	432.7	432.6	432.7	432.7
24°	430.7	430.7	430.8	430.7	430.6	430.7	430.8	430.7	430.7	430.7	430.8
24.5°	428.6	428.8	428.9	428.8	428.5	428.8	428.9	428.8	428.6	428.8	428.9
25°	426.7	426.7	426.8	426.7	426.5	426.7	426.8	426.7	426.7	426.7	426.8
25.5°	424.6	424.7	424.8	424.7	424.5	424.7	424.8	424.7	424.6	424.7	424.8
26°	422.5	422.5	422.6	422.5	422.3	422.5	422.6	422.5	422.5	422.5	422.6
26.5°	420.4	420.5	420.5	420.4	420.2	420.4	420.5	420.5	420.4	420.5	420.5
27°	418.2	418.2	418.3	418.2	418.0	418.2	418.3	418.2	418.2	418.2	418.3
27.5°	416.0	416.1	416.1	416.0	415.8	416.0	416.1	416.1	416.0	416.1	416.1
28°	413.8	413.9	413.9	413.8	413.6	413.8	413.9	413.9	413.8	413.9	413.9
28.5°	411.5	411.5	411.6	411.5	411.3	411.5	411.6	411.5	411.5	411.5	411.6
29°	409.2	409.3	409.3	409.2	408.9	409.2	409.3	409.3	409.2	409.3	409.3
29.5°	406.8	406.9	406.9	406.8	406.5	406.8	406.9	406.9	406.8	406.9	406.9
30°	404.5	404.6	404.6	404.4	404.2	404.4	404.6	404.6	404.5	404.6	404.6
30.5°	402.1	402.1	402.1	402.0	401.7	402.0	402.1	402.1	402.1	402.1	402.1
31°	399.6	399.7	399.8	399.5	399.3	399.5	399.8	399.7	399.6	399.7	399.8
31.5°	397.1	397.2	397.2	397.0	396.7	397.0	397.2	397.2	397.1	397.2	397.2
32°	394.7	394.8	394.8	394.6	394.2	394.6	394.8	394.8	394.7	394.8	394.8
32.5°	392.1	392.2	392.2	391.9	391.6	391.9	392.2	392.2	392.1	392.2	392.2
33°	389.5	389.7	389.7	389.5	389.1	389.5	389.7	389.7	389.5	389.7	389.7
33.5°	386.9	387.0	387.1	386.8	386.4	386.8	387.1	387.0	386.9	387.0	387.1
34°	384.3	384.4	384.5	384.2	383.9	384.2	384.5	384.4	384.3	384.4	384.5
34.5°	381.6	381.7	381.8	381.5	381.2	381.5	381.8	381.7	381.6	381.7	381.8
35°	379.0	379.1	379.2	378.9	378.5	378.9	379.2	379.1	379.0	379.1	379.2
35.5°	376.2	376.4	376.4	376.1	375.7	376.1	376.4	376.4	376.2	376.4	376.4
36°	373.6	373.7	373.8	373.4	373.0	373.4	373.8	373.7	373.6	373.7	373.8
36.5°	370.8	370.9	371.0	370.6	370.2	370.6	371.0	370.9	370.8	370.9	371.0
37°	368.0	368.1	368.2	367.7	367.4	367.7	368.2	368.1	368.0	368.1	368.2
37.5°	365.1	365.3	365.4	364.9	364.5	364.9	365.4	365.3	365.1	365.3	365.4
38°	362.2	362.3	362.5	362.0	361.7	362.0	362.5	362.3	362.2	362.3	362.5
38.5°	359.3	359.5	359.6	359.2	358.8	359.2	359.6	359.5	359.3	359.5	359.6
39°	356.4	356.6	356.7	356.2	355.8	356.2	356.7	356.6	356.4	356.6	356.7
39.5°	353.5	353.6	353.7	353.3	352.8	353.3	353.7	353.6	353.5	353.6	353.7
40°	350.4	350.6	350.6	350.2	349.7	350.2	350.6	350.6	350.4	350.6	350.6
40.5°	347.3	347.4	347.6	347.0	346.6	347.0	347.6	347.4	347.3	347.4	347.6
41°	344.2	344.4	344.5	344.0	343.5	344.0	344.5	344.4	344.2	344.4	344.5
41.5°	341.0	341.1	341.2	340.7	340.3	340.7	341.2	341.1	341.0	341.1	341.2
42°	337.8	337.9	338.0	337.5	336.9	337.5	338.0	337.9	337.8	337.9	338.0
42.5°	334.4	334.6	334.6	334.1	333.6	334.1	334.6	334.6	334.4	334.6	334.6
43°	331.0	331.1	331.1	330.6	330.1	330.6	331.1	331.1	331.0	331.1	331.1
43.5°	327.5	327.6	327.6	327.0	326.5	327.0	327.6	327.6	327.5	327.6	327.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	316.1	316.1	316.0	315.5	315.0	315.5	316.0	316.1	316.1	316.1	316.0
45.5°	312.1	312.1	311.9	311.3	310.8	311.3	311.9	312.1	312.1	312.1	311.9
46°	307.9	307.9	307.7	307.1	306.4	307.1	307.7	307.9	307.9	307.9	307.7
46.5°	303.4	303.4	303.2	302.5	302.1	302.5	303.2	303.4	303.4	303.4	303.2
47°	298.7	298.7	298.4	297.8	297.3	297.8	298.4	298.7	298.7	298.7	298.4
47.5°	293.8	293.8	293.5	292.9	292.4	292.9	293.5	293.8	293.8	293.8	293.5
48°	288.7	288.7	288.5	287.9	287.5	287.9	288.5	288.7	288.7	288.7	288.5
48.5°	283.4	283.4	283.2	282.8	282.4	282.8	283.2	283.4	283.4	283.4	283.2
49°	277.8	277.8	277.7	277.4	277.2	277.4	277.7	277.8	277.8	277.8	277.7
49.5°	272.2	272.1	272.2	271.9	271.8	271.9	272.2	272.1	272.2	272.1	272.2
50°	266.1	266.2	266.5	266.2	266.1	266.2	266.5	266.2	266.1	266.2	266.5
50.5°	259.9	260.3	260.6	260.5	260.5	260.5	260.6	260.3	259.9	260.3	260.6
51°	254.0	254.2	254.5	254.8	255.0	254.8	254.5	254.2	254.0	254.2	254.5
51.5°	248.2	248.3	248.7	249.0	249.3	249.0	248.7	248.3	248.2	248.3	248.7
52°	242.4	242.6	243.0	243.4	243.9	243.4	243.0	242.6	242.4	242.6	243.0
52.5°	236.9	237.1	237.6	238.1	238.5	238.1	237.6	237.1	236.9	237.1	237.6
53°	231.7	231.9	232.4	232.8	233.2	232.8	232.4	231.9	231.7	231.9	232.4
53.5°	226.8	227.0	227.2	227.4	227.7	227.4	227.2	227.0	226.8	227.0	227.2
54°	222.2	222.0	222.0	221.9	221.9	221.9	222.0	222.0	222.2	222.0	222.0
54.5°	217.1	216.9	216.5	216.0	215.5	216.0	216.5	216.9	217.1	216.9	216.5
55°	211.4	211.0	210.3	209.6	209.0	209.6	210.3	211.0	211.4	211.0	210.3
55.5°	204.6	204.1	203.5	202.9	202.3	202.9	203.5	204.1	204.6	204.1	203.5
56°	197.1	196.8	196.2	195.6	194.8	195.6	196.2	196.8	197.1	196.8	196.2
56.5°	188.8	188.5	188.3	187.7	187.2	187.7	188.3	188.5	188.8	188.5	188.3
57°	180.2	179.9	179.8	179.3	178.7	179.3	179.8	179.9	180.2	179.9	179.8
57.5°	171.0	171.0	171.0	170.5	170.1	170.5	171.0	171.0	171.0	171.0	171.0
58°	161.7	161.8	161.9	161.6	161.2	161.6	161.9	161.8	161.7	161.8	161.9
58.5°	152.2	152.2	152.5	152.4	152.0	152.4	152.5	152.2	152.2	152.2	152.5
59°	142.5	142.7	143.0	143.1	143.0	143.1	143.0	142.7	142.5	142.7	143.0
59.5°	132.8	133.0	133.5	133.9	133.9	133.9	133.5	133.0	132.8	133.0	133.5
60°	123.0	123.4	124.0	124.9	124.8	124.9	124.0	123.4	123.0	123.4	124.0
60.5°	113.3	113.8	114.7	115.6	115.7	115.6	114.7	113.8	113.3	113.8	114.7
61°	103.9	104.6	105.4	106.4	106.7	106.4	105.4	104.6	103.9	104.6	105.4
61.5°	94.8	95.3	96.4	97.3	97.9	97.3	96.4	95.3	94.8	95.3	96.4
62°	85.6	86.3	87.5	88.6	89.5	88.6	87.5	86.3	85.6	86.3	87.5
62.5°	76.5	77.3	79.0	80.2	81.0	80.2	79.0	77.3	76.5	77.3	79.0
63°	67.8	68.8	70.6	71.9	72.8	71.9	70.6	68.8	67.8	68.8	70.6
63.5°	59.6	60.5	62.4	64.1	65.6	64.1	62.4	60.5	59.6	60.5	62.4
64°	51.6	52.6	54.6	56.7	58.5	56.7	54.6	52.6	51.6	52.6	54.6
64.5°	44.0	45.3	47.3	49.6	51.2	49.6	47.3	45.3	44.0	45.3	47.3
65°	36.8	38.6	40.5	42.6	44.1	42.6	40.5	38.6	36.8	38.6	40.5
65.5°	30.3	32.2	34.0	36.0	37.3	36.0	34.0	32.2	30.3	32.2	34.0
66°	24.3	26.6	28.0	30.0	31.2	30.0	28.0	26.6	24.3	26.6	28.0



TEST NUMBER: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	9.3	12.5	14.0	15.7	16.6	15.7	14.0	12.5	9.3	12.5	14.0
68°	5.4	8.7	10.6	11.8	13.0	11.8	10.6	8.7	5.4	8.7	10.6
68.5°	2.0	5.8	7.7	9.0	10.3	9.0	7.7	5.8	2.0	5.8	7.7
69°	1.0	3.5	4.9	6.2	7.7	6.2	4.9	3.5	1.0	3.5	4.9
69.5°	0.6	1.5	2.8	4.1	5.5	4.1	2.8	1.5	0.6	1.5	2.8
70°	0.3	0.7	1.5	2.3	3.4	2.3	1.5	0.7	0.3	0.7	1.5
70.5°	0.1	0.4	0.9	1.1	1.3	1.1	0.9	0.4	0.1	0.4	0.9
71°	0.1	0.2	0.5	0.6	0.5	0.6	0.5	0.2	0.1	0.2	0.5
71.5°	0.1	0.1	0.3	0.3	0.1	0.3	0.3	0.1	0.1	0.1	0.3
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°	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
78°	0.0	0.0	0.0	0.0	0.0	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: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-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: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	477.6	477.6	477.6	477.6	477.6	477.6
0.5°	477.6	477.5	477.6	477.6	477.6	477.6
1°	477.5	477.4	477.5	477.6	477.6	477.6
1.5°	477.5	477.4	477.5	477.5	477.5	477.5
2°	477.3	477.2	477.3	477.4	477.4	477.4
2.5°	477.2	477.0	477.2	477.2	477.2	477.1
3°	477.0	476.8	477.0	477.0	477.0	476.9
3.5°	476.7	476.6	476.7	476.7	476.7	476.7
4°	476.4	476.2	476.4	476.4	476.4	476.4
4.5°	476.1	475.9	476.1	476.1	476.1	476.1
5°	475.7	475.5	475.7	475.7	475.7	475.7
5.5°	475.3	475.1	475.3	475.3	475.3	475.3
6°	474.8	474.7	474.8	474.8	474.9	474.8
6.5°	474.2	474.1	474.2	474.4	474.4	474.2
7°	473.7	473.6	473.7	473.7	473.7	473.7
7.5°	473.2	473.0	473.2	473.1	473.1	473.1
8°	472.5	472.4	472.5	472.5	472.5	472.5
8.5°	471.9	471.7	471.9	471.9	471.9	471.9
9°	471.2	471.1	471.2	471.2	471.2	471.2
9.5°	470.5	470.3	470.5	470.5	470.5	470.4
10°	469.7	469.6	469.7	469.7	469.7	469.7
10.5°	468.8	468.7	468.8	468.8	468.8	468.8
11°	468.0	467.8	468.0	467.9	467.9	467.9
11.5°	467.1	466.9	467.1	467.0	467.0	467.0
12°	466.1	466.0	466.1	466.1	466.1	466.1
12.5°	465.2	465.0	465.2	465.1	465.1	465.1
13°	464.0	463.9	464.0	464.0	464.0	464.0
13.5°	463.0	462.8	463.0	463.0	463.0	462.9
14°	461.9	461.7	461.9	461.9	461.9	461.8
14.5°	460.7	460.6	460.7	460.7	460.7	460.7
15°	459.6	459.4	459.6	459.5	459.5	459.5
15.5°	458.2	458.1	458.2	458.2	458.2	458.2
16°	457.0	456.8	457.0	457.0	457.0	456.9
16.5°	455.7	455.6	455.7	455.7	455.6	455.6
17°	454.3	454.2	454.3	454.4	454.3	454.3
17.5°	452.9	452.8	452.9	452.9	452.8	452.8
18°	451.4	451.3	451.4	451.4	451.4	451.4
18.5°	450.0	449.8	450.0	450.0	449.9	449.9
19°	448.4	448.2	448.4	448.4	448.3	448.3
19.5°	446.8	446.7	446.8	446.8	446.8	446.8
20°	445.2	445.1	445.2	445.2	445.2	445.2
20.5°	443.5	443.3	443.5	443.5	443.5	443.4
21°	441.8	441.7	441.8	441.8	441.8	441.8

TEST NUMBER: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	436.5	436.3	436.5	436.5	436.5	436.4
23°	434.6	434.5	434.6	434.6	434.6	434.6
23.5°	432.7	432.5	432.7	432.7	432.7	432.6
24°	430.7	430.6	430.7	430.8	430.7	430.7
24.5°	428.8	428.5	428.8	428.9	428.8	428.6
25°	426.7	426.5	426.7	426.8	426.7	426.7
25.5°	424.7	424.5	424.7	424.8	424.7	424.6
26°	422.5	422.3	422.5	422.6	422.5	422.5
26.5°	420.4	420.2	420.4	420.5	420.5	420.4
27°	418.2	418.0	418.2	418.3	418.2	418.2
27.5°	416.0	415.8	416.0	416.1	416.1	416.0
28°	413.8	413.6	413.8	413.9	413.9	413.8
28.5°	411.5	411.3	411.5	411.6	411.5	411.5
29°	409.2	408.9	409.2	409.3	409.3	409.2
29.5°	406.8	406.5	406.8	406.9	406.9	406.8
30°	404.4	404.2	404.4	404.6	404.6	404.5
30.5°	402.0	401.7	402.0	402.1	402.1	402.1
31°	399.5	399.3	399.5	399.8	399.7	399.6
31.5°	397.0	396.7	397.0	397.2	397.2	397.1
32°	394.6	394.2	394.6	394.8	394.8	394.7
32.5°	391.9	391.6	391.9	392.2	392.2	392.1
33°	389.5	389.1	389.5	389.7	389.7	389.5
33.5°	386.8	386.4	386.8	387.1	387.0	386.9
34°	384.2	383.9	384.2	384.5	384.4	384.3
34.5°	381.5	381.2	381.5	381.8	381.7	381.6
35°	378.9	378.5	378.9	379.2	379.1	379.0
35.5°	376.1	375.7	376.1	376.4	376.4	376.2
36°	373.4	373.0	373.4	373.8	373.7	373.6
36.5°	370.6	370.2	370.6	371.0	370.9	370.8
37°	367.7	367.4	367.7	368.2	368.1	368.0
37.5°	364.9	364.5	364.9	365.4	365.3	365.1
38°	362.0	361.7	362.0	362.5	362.3	362.2
38.5°	359.2	358.8	359.2	359.6	359.5	359.3
39°	356.2	355.8	356.2	356.7	356.6	356.4
39.5°	353.3	352.8	353.3	353.7	353.6	353.5
40°	350.2	349.7	350.2	350.6	350.6	350.4
40.5°	347.0	346.6	347.0	347.6	347.4	347.3
41°	344.0	343.5	344.0	344.5	344.4	344.2
41.5°	340.7	340.3	340.7	341.2	341.1	341.0
42°	337.5	336.9	337.5	338.0	337.9	337.8
42.5°	334.1	333.6	334.1	334.6	334.6	334.4
43°	330.6	330.1	330.6	331.1	331.1	331.0
43.5°	327.0	326.5	327.0	327.6	327.6	327.5



TEST NUMBER: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	315.5	315.0	315.5	316.0	316.1	316.1
45.5°	311.3	310.8	311.3	311.9	312.1	312.1
46°	307.1	306.4	307.1	307.7	307.9	307.9
46.5°	302.5	302.1	302.5	303.2	303.4	303.4
47°	297.8	297.3	297.8	298.4	298.7	298.7
47.5°	292.9	292.4	292.9	293.5	293.8	293.8
48°	287.9	287.5	287.9	288.5	288.7	288.7
48.5°	282.8	282.4	282.8	283.2	283.4	283.4
49°	277.4	277.2	277.4	277.7	277.8	277.8
49.5°	271.9	271.8	271.9	272.2	272.1	272.2
50°	266.2	266.1	266.2	266.5	266.2	266.1
50.5°	260.5	260.5	260.5	260.6	260.3	259.9
51°	254.8	255.0	254.8	254.5	254.2	254.0
51.5°	249.0	249.3	249.0	248.7	248.3	248.2
52°	243.4	243.9	243.4	243.0	242.6	242.4
52.5°	238.1	238.5	238.1	237.6	237.1	236.9
53°	232.8	233.2	232.8	232.4	231.9	231.7
53.5°	227.4	227.7	227.4	227.2	227.0	226.8
54°	221.9	221.9	221.9	222.0	222.0	222.2
54.5°	216.0	215.5	216.0	216.5	216.9	217.1
55°	209.6	209.0	209.6	210.3	211.0	211.4
55.5°	202.9	202.3	202.9	203.5	204.1	204.6
56°	195.6	194.8	195.6	196.2	196.8	197.1
56.5°	187.7	187.2	187.7	188.3	188.5	188.8
57°	179.3	178.7	179.3	179.8	179.9	180.2
57.5°	170.5	170.1	170.5	171.0	171.0	171.0
58°	161.6	161.2	161.6	161.9	161.8	161.7
58.5°	152.4	152.0	152.4	152.5	152.2	152.2
59°	143.1	143.0	143.1	143.0	142.7	142.5
59.5°	133.9	133.9	133.9	133.5	133.0	132.8
60°	124.9	124.8	124.9	124.0	123.4	123.0
60.5°	115.6	115.7	115.6	114.7	113.8	113.3
61°	106.4	106.7	106.4	105.4	104.6	103.9
61.5°	97.3	97.9	97.3	96.4	95.3	94.8
62°	88.6	89.5	88.6	87.5	86.3	85.6
62.5°	80.2	81.0	80.2	79.0	77.3	76.5
63°	71.9	72.8	71.9	70.6	68.8	67.8
63.5°	64.1	65.6	64.1	62.4	60.5	59.6
64°	56.7	58.5	56.7	54.6	52.6	51.6
64.5°	49.6	51.2	49.6	47.3	45.3	44.0
65°	42.6	44.1	42.6	40.5	38.6	36.8
65.5°	36.0	37.3	36.0	34.0	32.2	30.3
66°	30.0	31.2	30.0	28.0	26.6	24.3



TEST NUMBER: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-1000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	15.7	16.6	15.7	14.0	12.5	9.3
68°	11.8	13.0	11.8	10.6	8.7	5.4
68.5°	9.0	10.3	9.0	7.7	5.8	2.0
69°	6.2	7.7	6.2	4.9	3.5	1.0
69.5°	4.1	5.5	4.1	2.8	1.5	0.6
70°	2.3	3.4	2.3	1.5	0.7	0.3
70.5°	1.1	1.3	1.1	0.9	0.4	0.1
71°	0.6	0.5	0.6	0.5	0.2	0.1
71.5°	0.3	0.1	0.3	0.3	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	0.0	0.0	0.0
73.5°	0.0	0.0	0.0	0.0	0.0	0.0
74°	0.0	0.0	0.0	0.0	0.0	0.0
74.5°	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0
75.5°	0.0	0.0	0.0	0.0	0.0	0.0
76°	0.0	0.0	0.0	0.0	0.0	0.0
76.5°	0.0	0.0	0.0	0.0	0.0	0.0
77°	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0
78°	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
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: P775831

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMB-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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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°	440.1	440.1	440.1	440.1	439.9	440.1	440.1	440.1	440.1	440.1	440.1	440.1
22°	438.2	438.2	438.3	438.3	438.1	438.3	438.3	438.2	438.2	438.2	438.2	438.3



44°	323.8	323.9	323.8	323.3	322.9	323.3	323.8	323.9	323.8	323.9	323.8
44.5°	320.0	320.1	320.1	319.5	318.9	319.5	320.1	320.1	320.0	320.1	320.1



66.5°	19.2	21.5	22.6	24.6	25.7	24.6	22.6	21.5	19.2	21.5	22.6
67°	14.2	16.5	18.2	19.8	20.7	19.8	18.2	16.5	14.2	16.5	18.2



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°	440.1	439.9	440.1	440.1	440.1	440.1
22°	438.3	438.1	438.3	438.3	438.2	438.2

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44°	323.3	322.9	323.3	323.8	323.9	323.8
44.5°	319.5	318.9	319.5	320.1	320.1	320.0



66.5°	24.6	25.7	24.6	22.6	21.5	19.2
67°	19.8	20.7	19.8	18.2	16.5	14.2

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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)