

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: P775708

Luminaire Tested: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P775708
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B006-HCD4TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 700.1 lumens
Efficiency: N/A
Efficacy: 70.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.14
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

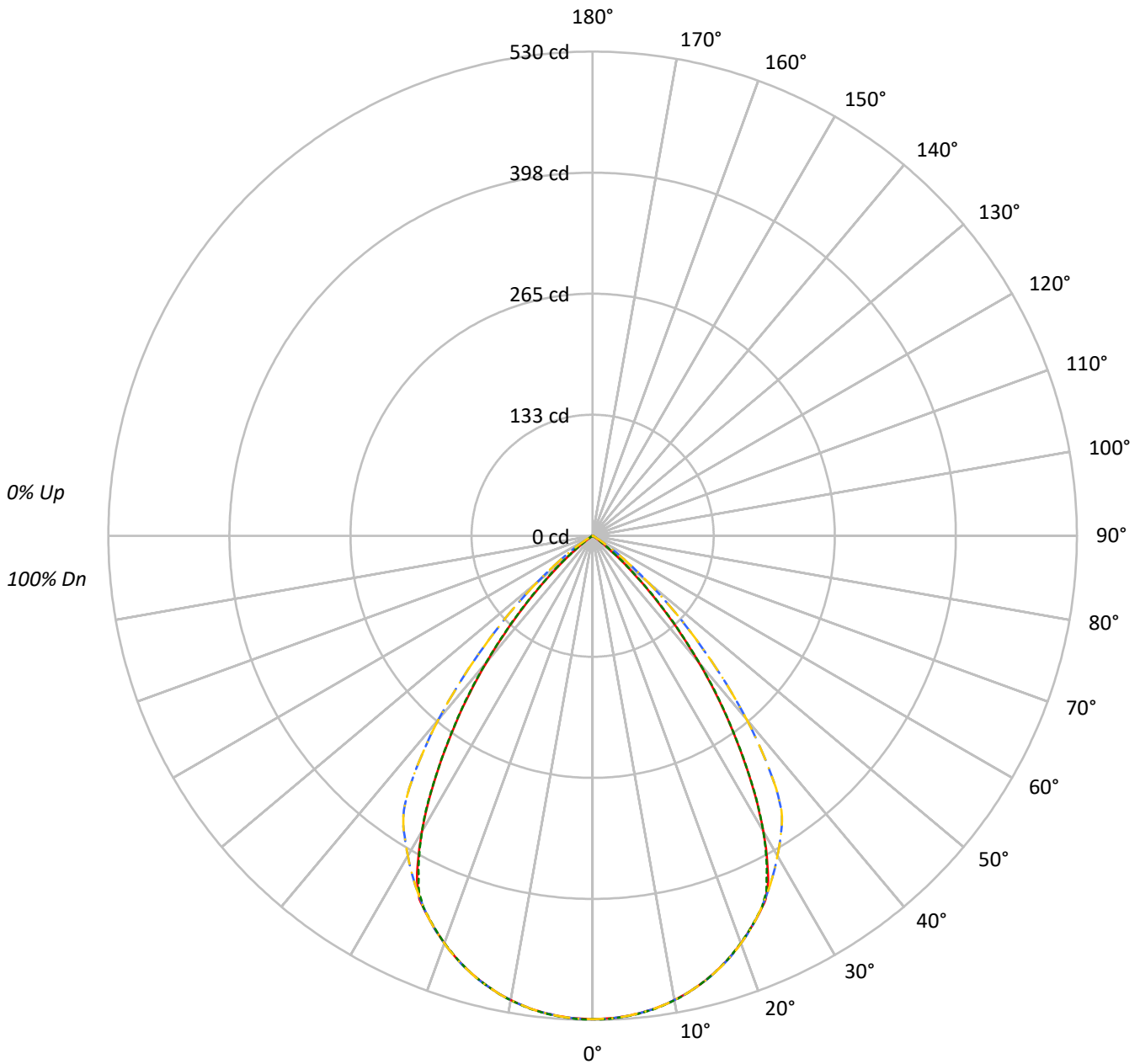
Input Watts (W): 10
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P775708

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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	107	105	110	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	90	88	86	85					85			
3	100	93	88	84	98	92	87	83	89	85	81	87	83	80	84	82	79	77					77			
4	95	86	80	75	93	85	79	75	83	78	74	81	77	73	79	75	72	71					71			
5	89	80	73	68	87	79	73	68	77	72	67	75	71	67	74	70	66	65					65			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	77	68	62	57	67	61	57	65	60	56	64	60	56	55					55			
8	74	64	57	53	73	63	57	53	62	56	52	61	56	52	60	55	52	50					50			
9	70	60	53	49	69	59	53	49	58	52	48	57	52	48	56	52	48	47					47			
10	67	56	49	45	65	55	49	45	54	49	45	54	48	45	53	48	45	43					43			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	52307	52307	52307	52307
5°	52180	52219	52180	52219
10°	51799	51819	51799	51819
15°	51062	51072	51062	51072
20°	49911	49890	49911	49890
25°	48423	48226	48423	48226
30°	42640	42629	42640	42629
35°	33303	33412	33303	33412
40°	23238	23470	23238	23470
45°	13196	13545	13196	13545
50°	5244	5628	5244	5628
55°	775	999	775	999
60°	158	158	158	158
65°	117	117	117	117
70°	87	87	87	87
75°	76	76	76	76
80°	57	57	57	57
85°	0	0	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 22310 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.9	7.1
10°-20°	140.5	20.1
20°-30°	202.4	28.9
30°-40°	191.0	27.3
40°-50°	98.4	14.1
50°-60°	17.2	2.5
60°-70°	0.6	0.1
70°-80°	0.2	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°	392.7	56.1
0°-40°	583.7	83.4
0°-60°	699.3	99.9
0°-90°	700.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	700.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	529	529	529	529	529	
5°	526	526	526	526	526	50
15°	499	499	499	499	499	140
25°	444	442	444	442	444	201
35°	276	277	276	277	276	171
45°	94	97	94	97	94	75
55°	4	6	4	6	4	8
65°	0	0	0	0	0	1
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°	529.2	529.2	529.2	529.2	529.2	529.2	529.2	529.2	529.2	529.2	529.2
0.5°	529.1	529.1	529.1	529.2	529.5	529.2	529.1	529.1	529.1	529.1	529.1
1°	529.0	529.0	529.0	529.1	529.4	529.1	529.0	529.0	529.0	529.0	529.0
1.5°	528.8	528.9	528.9	528.9	529.2	528.9	528.9	528.9	528.8	528.9	528.9
2°	528.6	528.6	528.7	528.7	529.0	528.7	528.7	528.6	528.6	528.6	528.7
2.5°	528.3	528.3	528.4	528.5	528.7	528.5	528.4	528.3	528.3	528.3	528.4
3°	527.9	527.9	528.0	528.0	528.4	528.0	528.0	527.9	527.9	527.9	528.0
3.5°	527.5	527.5	527.6	527.6	527.9	527.6	527.6	527.5	527.5	527.5	527.6
4°	527.1	527.1	527.1	527.2	527.4	527.2	527.1	527.1	527.1	527.1	527.1
4.5°	526.6	526.6	526.6	526.6	526.9	526.6	526.6	526.6	526.6	526.6	526.6
5°	525.9	525.9	525.9	525.9	526.3	525.9	525.9	525.9	525.9	525.9	525.9
5.5°	525.2	525.2	525.3	525.3	525.5	525.3	525.3	525.2	525.2	525.2	525.3
6°	524.5	524.5	524.5	524.6	524.8	524.6	524.5	524.5	524.5	524.5	524.5
6.5°	523.6	523.6	523.7	523.7	523.9	523.7	523.7	523.6	523.6	523.6	523.7
7°	522.8	522.8	522.8	522.9	523.1	522.9	522.8	522.8	522.8	522.8	522.8
7.5°	521.9	521.9	521.9	521.9	522.2	521.9	521.9	521.9	521.9	521.9	521.9
8°	520.8	520.8	520.9	520.9	521.1	520.9	520.9	520.8	520.8	520.8	520.9
8.5°	519.8	519.8	519.8	519.8	520.0	519.8	519.8	519.8	519.8	519.8	519.8
9°	518.6	518.6	518.6	518.6	518.8	518.6	518.6	518.6	518.6	518.6	518.6
9.5°	517.3	517.3	517.3	517.3	517.5	517.3	517.3	517.3	517.3	517.3	517.3
10°	516.1	516.1	516.1	516.1	516.3	516.1	516.1	516.1	516.1	516.1	516.1
10.5°	514.7	514.7	514.7	514.6	514.9	514.6	514.7	514.7	514.7	514.7	514.7
11°	513.2	513.2	513.3	513.2	513.5	513.2	513.3	513.2	513.2	513.2	513.3
11.5°	511.8	511.8	511.8	511.7	511.9	511.7	511.8	511.8	511.8	511.8	511.8
12°	510.2	510.2	510.2	510.1	510.3	510.1	510.2	510.2	510.2	510.2	510.2
12.5°	508.4	508.5	508.5	508.4	508.5	508.4	508.5	508.5	508.4	508.5	508.5
13°	506.7	506.8	506.8	506.6	506.8	506.6	506.8	506.8	506.7	506.8	506.8
13.5°	504.9	504.9	505.1	504.8	505.1	504.8	505.1	504.9	504.9	504.9	505.1
14°	503.1	503.2	503.2	503.0	503.1	503.0	503.2	503.2	503.1	503.2	503.2
14.5°	501.1	501.2	501.3	501.1	501.1	501.1	501.3	501.2	501.1	501.2	501.3
15°	499.0	499.2	499.2	499.0	499.1	499.0	499.2	499.2	499.0	499.2	499.2
15.5°	496.9	497.1	497.1	496.9	496.9	496.9	497.1	497.1	496.9	497.1	497.1
16°	494.7	494.9	495.0	494.7	494.7	494.7	495.0	494.9	494.7	494.9	495.0
16.5°	492.5	492.6	492.8	492.5	492.4	492.5	492.8	492.6	492.5	492.6	492.8
17°	490.1	490.3	490.5	490.0	490.0	490.0	490.5	490.3	490.1	490.3	490.5
17.5°	487.6	487.8	488.0	487.6	487.6	487.6	488.0	487.8	487.6	487.8	488.0
18°	485.2	485.3	485.5	485.2	485.1	485.2	485.5	485.3	485.2	485.3	485.5
18.5°	482.7	482.8	483.0	482.6	482.5	482.6	483.0	482.8	482.7	482.8	483.0
19°	480.0	480.2	480.4	480.0	479.8	480.0	480.4	480.2	480.0	480.2	480.4
19.5°	477.3	477.4	477.7	477.2	477.1	477.2	477.7	477.4	477.3	477.4	477.7
20°	474.5	474.7	474.9	474.4	474.3	474.4	474.9	474.7	474.5	474.7	474.9
20.5°	471.8	471.9	472.1	471.6	471.5	471.6	472.1	471.9	471.8	471.9	472.1
21°	468.8	468.9	469.2	468.6	468.5	468.6	469.2	468.9	468.8	468.9	469.2



TEST NUMBER: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	459.8	459.8	459.9	459.5	459.5	459.5	459.9	459.8	459.8	459.8	459.9
23°	456.7	456.7	456.7	456.3	456.2	456.3	456.7	456.7	456.7	456.7	456.7
23.5°	453.5	453.5	453.3	453.1	453.1	453.1	453.3	453.5	453.5	453.5	453.3
24°	450.3	450.3	449.9	449.8	450.0	449.8	449.9	450.3	450.3	450.3	449.9
24.5°	447.0	446.9	446.5	446.5	446.8	446.5	446.5	446.9	447.0	446.9	446.5
25°	444.0	443.4	442.9	443.0	442.2	443.0	442.9	443.4	444.0	443.4	442.9
25.5°	440.4	440.1	439.3	439.7	437.8	439.7	439.3	440.1	440.4	440.1	439.3
26°	434.4	436.6	435.7	436.3	433.4	436.3	435.7	436.6	434.4	436.6	435.7
26.5°	429.4	433.1	432.0	432.7	426.9	432.7	432.0	433.1	429.4	433.1	432.0
27°	423.3	429.9	428.2	427.8	419.5	427.8	428.2	429.9	423.3	429.9	428.2
27.5°	415.7	425.4	424.3	423.3	412.8	423.3	424.3	425.4	415.7	425.4	424.3
28°	407.7	419.4	420.4	418.4	405.3	418.4	420.4	419.4	407.7	419.4	420.4
28.5°	399.7	414.2	416.6	411.6	397.6	411.6	416.6	414.2	399.7	414.2	416.6
29°	391.2	407.8	412.6	404.5	390.0	404.5	412.6	407.8	391.2	407.8	412.6
29.5°	382.5	400.3	408.6	397.6	381.8	397.6	408.6	400.3	382.5	400.3	408.6
30°	373.6	392.5	404.5	390.2	373.5	390.2	404.5	392.5	373.6	392.5	404.5
30.5°	364.5	384.3	400.5	382.5	364.9	382.5	400.5	384.3	364.5	384.3	400.5
31°	355.0	376.1	396.4	374.7	356.1	374.7	396.4	376.1	355.0	376.1	396.4
31.5°	345.5	367.6	392.3	366.8	346.5	366.8	392.3	367.6	345.5	367.6	392.3
32°	335.7	359.0	388.2	358.7	336.8	358.7	388.2	359.0	335.7	359.0	388.2
32.5°	325.7	350.1	384.2	350.4	326.9	350.4	384.2	350.1	325.7	350.1	384.2
33°	315.8	341.2	380.1	341.7	317.1	341.7	380.1	341.2	315.8	341.2	380.1
33.5°	305.7	331.8	375.4	332.8	306.5	332.8	375.4	331.8	305.7	331.8	375.4
34°	295.8	322.4	370.4	323.4	296.5	323.4	370.4	322.4	295.8	322.4	370.4
34.5°	285.9	312.8	364.5	313.8	286.5	313.8	364.5	312.8	285.9	312.8	364.5
35°	276.0	303.3	357.3	304.0	276.9	304.0	357.3	303.3	276.0	303.3	357.3
35.5°	266.3	293.8	349.7	294.5	267.1	294.5	349.7	293.8	266.3	293.8	349.7
36°	256.8	284.2	341.2	284.7	257.8	284.7	341.2	284.2	256.8	284.2	341.2
36.5°	247.1	274.7	332.0	275.1	248.4	275.1	332.0	274.7	247.1	274.7	332.0
37°	237.6	265.3	322.4	265.7	239.0	265.7	322.4	265.3	237.6	265.3	322.4
37.5°	227.9	255.9	312.6	256.6	229.6	256.6	312.6	255.9	227.9	255.9	312.6
38°	218.3	246.6	302.5	247.3	220.1	247.3	302.5	246.6	218.3	246.6	302.5
38.5°	208.5	237.6	292.6	238.4	210.5	238.4	292.6	237.6	208.5	237.6	292.6
39°	199.0	228.4	282.5	229.5	201.0	229.5	282.5	228.4	199.0	228.4	282.5
39.5°	189.7	219.3	272.3	220.7	191.3	220.7	272.3	219.3	189.7	219.3	272.3
40°	180.1	210.1	261.9	211.6	181.9	211.6	261.9	210.1	180.1	210.1	261.9
40.5°	170.8	200.9	251.4	202.5	172.5	202.5	251.4	200.9	170.8	200.9	251.4
41°	161.8	191.9	240.9	193.5	163.3	193.5	240.9	191.9	161.8	191.9	240.9
41.5°	152.7	182.9	230.3	184.4	154.4	184.4	230.3	182.9	152.7	182.9	230.3
42°	144.0	174.1	219.7	175.4	145.8	175.4	219.7	174.1	144.0	174.1	219.7
42.5°	135.4	165.2	209.3	166.7	137.3	166.7	209.3	165.2	135.4	165.2	209.3
43°	126.9	156.6	198.9	157.9	128.9	157.9	198.9	156.6	126.9	156.6	198.9
43.5°	118.4	148.1	188.8	149.6	120.7	149.6	188.8	148.1	118.4	148.1	188.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	94.4	123.6	159.6	125.1	96.9	125.1	159.6	123.6	94.4	123.6	159.6
45.5°	87.0	115.7	150.4	117.5	89.4	117.5	150.4	115.7	87.0	115.7	150.4
46°	80.0	108.0	141.7	109.9	82.3	109.9	141.7	108.0	80.0	108.0	141.7
46.5°	72.9	100.3	133.1	102.4	75.5	102.4	133.1	100.3	72.9	100.3	133.1
47°	66.1	92.9	124.7	94.9	69.1	94.9	124.7	92.9	66.1	92.9	124.7
47.5°	59.4	85.8	116.6	87.6	62.8	87.6	116.6	85.8	59.4	85.8	116.6
48°	53.5	78.9	108.9	80.7	56.7	80.7	108.9	78.9	53.5	78.9	108.9
48.5°	47.9	72.2	101.4	74.2	51.2	74.2	101.4	72.2	47.9	72.2	101.4
49°	43.1	65.6	94.0	67.8	46.2	67.8	94.0	65.6	43.1	65.6	94.0
49.5°	38.6	59.4	86.8	61.7	41.4	61.7	86.8	59.4	38.6	59.4	86.8
50°	34.1	53.5	79.8	55.8	36.6	55.8	79.8	53.5	34.1	53.5	79.8
50.5°	29.8	48.0	73.3	50.4	32.0	50.4	73.3	48.0	29.8	48.0	73.3
51°	25.7	43.1	67.0	45.5	28.1	45.5	67.0	43.1	25.7	43.1	67.0
51.5°	22.4	38.5	61.0	40.6	24.5	40.6	61.0	38.5	22.4	38.5	61.0
52°	19.1	34.0	55.2	36.0	21.0	36.0	55.2	34.0	19.1	34.0	55.2
52.5°	16.1	29.6	49.8	31.6	17.7	31.6	49.8	29.6	16.1	29.6	49.8
53°	13.2	25.6	44.9	27.7	14.7	27.7	44.9	25.6	13.2	25.6	44.9
53.5°	10.9	22.0	40.2	24.1	11.8	24.1	40.2	22.0	10.9	22.0	40.2
54°	8.5	18.8	35.8	20.7	9.3	20.7	35.8	18.8	8.5	18.8	35.8
54.5°	6.2	15.7	31.7	17.4	7.6	17.4	31.7	15.7	6.2	15.7	31.7
55°	4.5	13.1	27.7	14.4	5.8	14.4	27.7	13.1	4.5	13.1	27.7
55.5°	2.8	10.7	24.1	11.5	4.0	11.5	24.1	10.7	2.8	10.7	24.1
56°	1.9	8.4	20.7	9.0	2.2	9.0	20.7	8.4	1.9	8.4	20.7
56.5°	1.5	6.1	17.7	6.9	1.4	6.9	17.7	6.1	1.5	6.1	17.7
57°	1.0	4.0	15.1	5.0	1.2	5.0	15.1	4.0	1.0	4.0	15.1
57.5°	1.0	2.5	12.7	3.4	1.0	3.4	12.7	2.5	1.0	2.5	12.7
58°	0.9	1.6	10.6	2.2	1.0	2.2	10.6	1.6	0.9	1.6	10.6
58.5°	0.9	1.0	8.8	1.6	0.9	1.6	8.8	1.0	0.9	1.0	8.8
59°	0.8	0.8	7.1	1.2	0.9	1.2	7.1	0.8	0.8	0.8	7.1
59.5°	0.8	0.8	5.8	0.8	0.9	0.8	5.8	0.8	0.8	0.8	5.8
60°	0.8	0.8	4.6	0.8	0.8	0.8	4.6	0.8	0.8	0.8	4.6
60.5°	0.7	0.7	3.6	0.8	0.8	0.8	3.6	0.7	0.7	0.7	3.6
61°	0.7	0.7	2.8	0.7	0.8	0.7	2.8	0.7	0.7	0.7	2.8
61.5°	0.7	0.7	2.1	0.7	0.7	0.7	2.1	0.7	0.7	0.7	2.1
62°	0.6	0.6	1.6	0.7	0.7	0.7	1.6	0.6	0.6	0.6	1.6
62.5°	0.6	0.6	1.2	0.6	0.7	0.6	1.2	0.6	0.6	0.6	1.2
63°	0.6	0.6	0.8	0.6	0.6	0.6	0.8	0.6	0.6	0.6	0.8
63.5°	0.6	0.5	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5	0.6
64°	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
64.5°	0.5	0.5	0.4	0.5	0.6	0.5	0.4	0.5	0.5	0.5	0.4
65°	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.4
65.5°	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.4	0.4
66°	0.5	0.4	0.3	0.4	0.5	0.4	0.3	0.4	0.5	0.4	0.3



TEST NUMBER: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.3
68°	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3
68.5°	0.4	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.4	0.3	0.2
69°	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.2
69.5°	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.3	0.3	0.3	0.2
70°	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2
70.5°	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2
71°	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2
71.5°	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2
72°	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2
72.5°	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.1
73°	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.1
73.5°	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1
74°	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1
74.5°	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1
75°	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.1
75.5°	0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1
76°	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1
76.5°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
77°	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
79.5°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
80°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
80.5°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
81°	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0
81.5°	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.1	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: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

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: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	529.2	529.2	529.2	529.2	529.2	529.2
0.5°	529.2	529.5	529.2	529.1	529.1	529.1
1°	529.1	529.4	529.1	529.0	529.0	529.0
1.5°	528.9	529.2	528.9	528.9	528.9	528.8
2°	528.7	529.0	528.7	528.7	528.6	528.6
2.5°	528.5	528.7	528.5	528.4	528.3	528.3
3°	528.0	528.4	528.0	528.0	527.9	527.9
3.5°	527.6	527.9	527.6	527.6	527.5	527.5
4°	527.2	527.4	527.2	527.1	527.1	527.1
4.5°	526.6	526.9	526.6	526.6	526.6	526.6
5°	525.9	526.3	525.9	525.9	525.9	525.9
5.5°	525.3	525.5	525.3	525.3	525.2	525.2
6°	524.6	524.8	524.6	524.5	524.5	524.5
6.5°	523.7	523.9	523.7	523.7	523.6	523.6
7°	522.9	523.1	522.9	522.8	522.8	522.8
7.5°	521.9	522.2	521.9	521.9	521.9	521.9
8°	520.9	521.1	520.9	520.9	520.8	520.8
8.5°	519.8	520.0	519.8	519.8	519.8	519.8
9°	518.6	518.8	518.6	518.6	518.6	518.6
9.5°	517.3	517.5	517.3	517.3	517.3	517.3
10°	516.1	516.3	516.1	516.1	516.1	516.1
10.5°	514.6	514.9	514.6	514.7	514.7	514.7
11°	513.2	513.5	513.2	513.3	513.2	513.2
11.5°	511.7	511.9	511.7	511.8	511.8	511.8
12°	510.1	510.3	510.1	510.2	510.2	510.2
12.5°	508.4	508.5	508.4	508.5	508.5	508.4
13°	506.6	506.8	506.6	506.8	506.8	506.7
13.5°	504.8	505.1	504.8	505.1	504.9	504.9
14°	503.0	503.1	503.0	503.2	503.2	503.1
14.5°	501.1	501.1	501.1	501.3	501.2	501.1
15°	499.0	499.1	499.0	499.2	499.2	499.0
15.5°	496.9	496.9	496.9	497.1	497.1	496.9
16°	494.7	494.7	494.7	495.0	494.9	494.7
16.5°	492.5	492.4	492.5	492.8	492.6	492.5
17°	490.0	490.0	490.0	490.5	490.3	490.1
17.5°	487.6	487.6	487.6	488.0	487.8	487.6
18°	485.2	485.1	485.2	485.5	485.3	485.2
18.5°	482.6	482.5	482.6	483.0	482.8	482.7
19°	480.0	479.8	480.0	480.4	480.2	480.0
19.5°	477.2	477.1	477.2	477.7	477.4	477.3
20°	474.4	474.3	474.4	474.9	474.7	474.5
20.5°	471.6	471.5	471.6	472.1	471.9	471.8
21°	468.6	468.5	468.6	469.2	468.9	468.8

TEST NUMBER: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	459.5	459.5	459.5	459.9	459.8	459.8
23°	456.3	456.2	456.3	456.7	456.7	456.7
23.5°	453.1	453.1	453.1	453.3	453.5	453.5
24°	449.8	450.0	449.8	449.9	450.3	450.3
24.5°	446.5	446.8	446.5	446.5	446.9	447.0
25°	443.0	442.2	443.0	442.9	443.4	444.0
25.5°	439.7	437.8	439.7	439.3	440.1	440.4
26°	436.3	433.4	436.3	435.7	436.6	434.4
26.5°	432.7	426.9	432.7	432.0	433.1	429.4
27°	427.8	419.5	427.8	428.2	429.9	423.3
27.5°	423.3	412.8	423.3	424.3	425.4	415.7
28°	418.4	405.3	418.4	420.4	419.4	407.7
28.5°	411.6	397.6	411.6	416.6	414.2	399.7
29°	404.5	390.0	404.5	412.6	407.8	391.2
29.5°	397.6	381.8	397.6	408.6	400.3	382.5
30°	390.2	373.5	390.2	404.5	392.5	373.6
30.5°	382.5	364.9	382.5	400.5	384.3	364.5
31°	374.7	356.1	374.7	396.4	376.1	355.0
31.5°	366.8	346.5	366.8	392.3	367.6	345.5
32°	358.7	336.8	358.7	388.2	359.0	335.7
32.5°	350.4	326.9	350.4	384.2	350.1	325.7
33°	341.7	317.1	341.7	380.1	341.2	315.8
33.5°	332.8	306.5	332.8	375.4	331.8	305.7
34°	323.4	296.5	323.4	370.4	322.4	295.8
34.5°	313.8	286.5	313.8	364.5	312.8	285.9
35°	304.0	276.9	304.0	357.3	303.3	276.0
35.5°	294.5	267.1	294.5	349.7	293.8	266.3
36°	284.7	257.8	284.7	341.2	284.2	256.8
36.5°	275.1	248.4	275.1	332.0	274.7	247.1
37°	265.7	239.0	265.7	322.4	265.3	237.6
37.5°	256.6	229.6	256.6	312.6	255.9	227.9
38°	247.3	220.1	247.3	302.5	246.6	218.3
38.5°	238.4	210.5	238.4	292.6	237.6	208.5
39°	229.5	201.0	229.5	282.5	228.4	199.0
39.5°	220.7	191.3	220.7	272.3	219.3	189.7
40°	211.6	181.9	211.6	261.9	210.1	180.1
40.5°	202.5	172.5	202.5	251.4	200.9	170.8
41°	193.5	163.3	193.5	240.9	191.9	161.8
41.5°	184.4	154.4	184.4	230.3	182.9	152.7
42°	175.4	145.8	175.4	219.7	174.1	144.0
42.5°	166.7	137.3	166.7	209.3	165.2	135.4
43°	157.9	128.9	157.9	198.9	156.6	126.9
43.5°	149.6	120.7	149.6	188.8	148.1	118.4



TEST NUMBER: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	125.1	96.9	125.1	159.6	123.6	94.4
45.5°	117.5	89.4	117.5	150.4	115.7	87.0
46°	109.9	82.3	109.9	141.7	108.0	80.0
46.5°	102.4	75.5	102.4	133.1	100.3	72.9
47°	94.9	69.1	94.9	124.7	92.9	66.1
47.5°	87.6	62.8	87.6	116.6	85.8	59.4
48°	80.7	56.7	80.7	108.9	78.9	53.5
48.5°	74.2	51.2	74.2	101.4	72.2	47.9
49°	67.8	46.2	67.8	94.0	65.6	43.1
49.5°	61.7	41.4	61.7	86.8	59.4	38.6
50°	55.8	36.6	55.8	79.8	53.5	34.1
50.5°	50.4	32.0	50.4	73.3	48.0	29.8
51°	45.5	28.1	45.5	67.0	43.1	25.7
51.5°	40.6	24.5	40.6	61.0	38.5	22.4
52°	36.0	21.0	36.0	55.2	34.0	19.1
52.5°	31.6	17.7	31.6	49.8	29.6	16.1
53°	27.7	14.7	27.7	44.9	25.6	13.2
53.5°	24.1	11.8	24.1	40.2	22.0	10.9
54°	20.7	9.3	20.7	35.8	18.8	8.5
54.5°	17.4	7.6	17.4	31.7	15.7	6.2
55°	14.4	5.8	14.4	27.7	13.1	4.5
55.5°	11.5	4.0	11.5	24.1	10.7	2.8
56°	9.0	2.2	9.0	20.7	8.4	1.9
56.5°	6.9	1.4	6.9	17.7	6.1	1.5
57°	5.0	1.2	5.0	15.1	4.0	1.0
57.5°	3.4	1.0	3.4	12.7	2.5	1.0
58°	2.2	1.0	2.2	10.6	1.6	0.9
58.5°	1.6	0.9	1.6	8.8	1.0	0.9
59°	1.2	0.9	1.2	7.1	0.8	0.8
59.5°	0.8	0.9	0.8	5.8	0.8	0.8
60°	0.8	0.8	0.8	4.6	0.8	0.8
60.5°	0.8	0.8	0.8	3.6	0.7	0.7
61°	0.7	0.8	0.7	2.8	0.7	0.7
61.5°	0.7	0.7	0.7	2.1	0.7	0.7
62°	0.7	0.7	0.7	1.6	0.6	0.6
62.5°	0.6	0.7	0.6	1.2	0.6	0.6
63°	0.6	0.6	0.6	0.8	0.6	0.6
63.5°	0.6	0.6	0.6	0.6	0.5	0.6
64°	0.5	0.6	0.5	0.5	0.5	0.5
64.5°	0.5	0.6	0.5	0.4	0.5	0.5
65°	0.5	0.5	0.5	0.4	0.5	0.5
65.5°	0.5	0.5	0.5	0.4	0.4	0.5
66°	0.4	0.5	0.4	0.3	0.4	0.5



TEST NUMBER: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	0.4	0.4	0.4	0.3	0.4	0.4
68°	0.4	0.4	0.4	0.3	0.3	0.4
68.5°	0.3	0.4	0.3	0.2	0.3	0.4
69°	0.3	0.4	0.3	0.2	0.3	0.3
69.5°	0.3	0.4	0.3	0.2	0.3	0.3
70°	0.3	0.3	0.3	0.2	0.3	0.3
70.5°	0.3	0.3	0.3	0.2	0.3	0.3
71°	0.3	0.3	0.3	0.2	0.2	0.3
71.5°	0.2	0.3	0.2	0.2	0.2	0.3
72°	0.2	0.3	0.2	0.2	0.2	0.3
72.5°	0.2	0.3	0.2	0.1	0.2	0.2
73°	0.2	0.3	0.2	0.1	0.2	0.2
73.5°	0.2	0.2	0.2	0.1	0.2	0.2
74°	0.2	0.2	0.2	0.1	0.2	0.2
74.5°	0.2	0.2	0.2	0.1	0.2	0.2
75°	0.2	0.2	0.2	0.1	0.2	0.2
75.5°	0.2	0.2	0.2	0.1	0.1	0.2
76°	0.1	0.2	0.1	0.1	0.1	0.2
76.5°	0.1	0.2	0.1	0.1	0.1	0.1
77°	0.1	0.2	0.1	0.1	0.1	0.1
77.5°	0.1	0.1	0.1	0.1	0.1	0.1
78°	0.1	0.1	0.1	0.1	0.1	0.1
78.5°	0.1	0.1	0.1	0.1	0.1	0.1
79°	0.1	0.1	0.1	0.0	0.1	0.1
79.5°	0.1	0.1	0.1	0.0	0.1	0.1
80°	0.1	0.1	0.1	0.0	0.1	0.1
80.5°	0.1	0.1	0.1	0.0	0.1	0.1
81°	0.1	0.1	0.1	0.0	0.1	0.1
81.5°	0.1	0.1	0.1	0.0	0.0	0.1
82°	0.0	0.1	0.0	0.0	0.0	0.0
82.5°	0.0	0.1	0.0	0.0	0.0	0.0
83°	0.0	0.1	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: P775708

CATALOG NUMBER: HCDJBL510CSD-HCD4TSQMB-1000lm-4000K

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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1121 Highway 74 South
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°	465.9	466.0	466.1	465.7	465.6	465.7	466.1	466.0	465.9	466.0	466.1
22°	462.9	463.0	463.1	462.5	462.5	462.5	463.1	463.0	462.9	463.0	463.1



44°	110.2	139.7	178.7	141.2	112.5	141.2	178.7	139.7	110.2	139.7	178.7
44.5°	102.2	131.6	169.0	133.1	104.6	133.1	169.0	131.6	102.2	131.6	169.0



66.5°	0.4	0.4	0.3	0.4	0.5	0.4	0.3	0.4	0.4	0.4	0.3
67°	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.3



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°	465.7	465.6	465.7	466.1	466.0	465.9
22°	462.5	462.5	462.5	463.1	463.0	462.9



44°	141.2	112.5	141.2	178.7	139.7	110.2
44.5°	133.1	104.6	133.1	169.0	131.6	102.2

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66.5°	0.4	0.5	0.4	0.3	0.4	0.4
67°	0.4	0.4	0.4	0.3	0.4	0.4

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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)