

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: P775837

Luminaire Tested: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P775837
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B044)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL510CSD-HCD81TRMW-1000lm-3500K
Description: 8 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

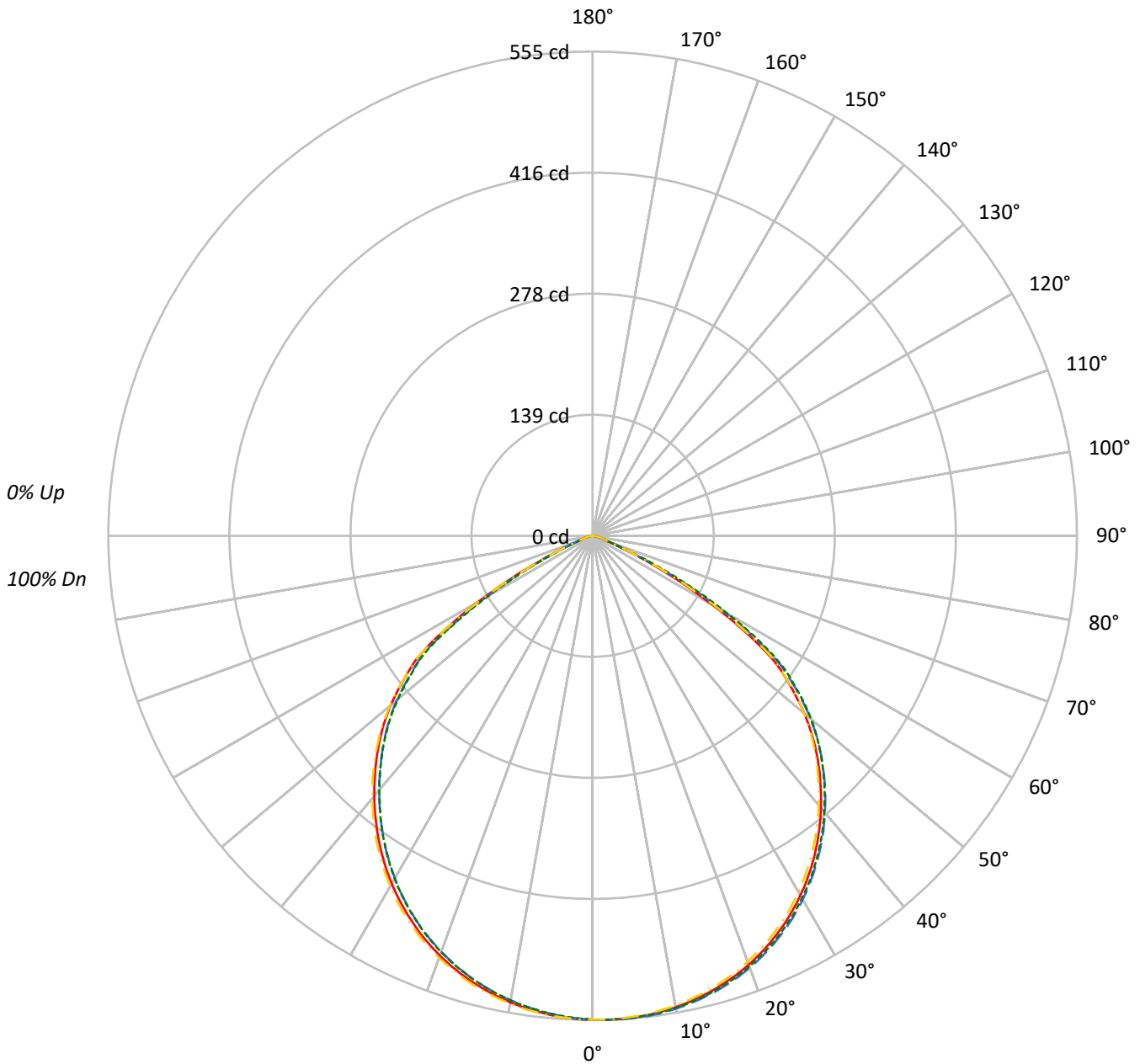
Lumens per Lamp: N/A
Luminaire Lumens: 1278.5 lumens
Efficiency: N/A
Efficacy: 127.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.25 / 1.35
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

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									
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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	109	105	102	99	101	98	96	97	95	93	94	92	91	89																			
2	103	96	90	85	100	94	89	84	91	86	83	87	84	81	85	82	79	77																			
3	95	86	79	73	92	84	78	72	81	76	71	79	74	70	76	72	69	67																			
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58																			
5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51																			
6	75	63	54	48	73	62	54	48	60	53	48	58	52	47	57	51	47	45																			
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40																			
8	65	52	44	39	63	51	44	38	50	43	38	49	43	38	48	42	38	36																			
9	60	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	32																			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	29																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	16938	16938	16938	16938
5°	16985	16991	16899	16853
10°	17010	17038	16837	16765
15°	17017	17068	16749	16651
20°	16995	17070	16635	16498
25°	16921	17025	16463	16281
30°	16784	16918	16231	15991
35°	16559	16734	15918	15609
40°	16225	16464	15515	15161
45°	15768	16092	15034	14632
50°	15037	15527	14339	13826
55°	13727	14398	13083	12530
60°	9709	10930	9245	8463
65°	4768	5700	4306	3887
70°	1517	1669	1526	1500
75°	1097	1239	1109	1132
80°	774	914	774	826
85°	420	631	420	525

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 16126 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.5	4.1
10°-20°	150.7	11.8
20°-30°	228.0	17.8
30°-40°	271.8	21.3
40°-50°	274.3	21.5
50°-60°	217.9	17.0
60°-70°	70.6	5.5
70°-80°	10.8	0.8
80°-90°	1.9	0.1
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°	431.2	33.7
0°-40°	703.0	55.0
0°-60°	1195.1	93.5
0°-90°	1278.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1278.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	555	555	555	555	555	
5°	554	554	551	550	554	53
15°	538	540	530	527	538	152
25°	502	505	489	483	502	231
35°	444	449	427	419	444	278
45°	365	373	348	339	365	281
55°	258	270	246	235	258	223
65°	66	79	60	54	66	71
75°	9	10	9	10	9	10
85°	1	2	1	2	1	2
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°	554.8	554.8	554.8	554.8	554.8	554.8	554.8	554.8	554.8	554.8	554.8
0.5°	555.1	555.0	555.0	555.1	554.6	554.7	554.9	554.9	554.8	554.6	554.5
1°	555.1	555.1	555.2	555.3	554.8	554.8	554.8	554.8	554.6	554.3	554.2
1.5°	555.2	555.2	555.3	555.4	554.9	554.8	554.8	554.7	554.3	554.0	553.8
2°	555.1	555.2	555.4	555.5	555.0	554.8	554.7	554.5	554.1	553.5	553.3
2.5°	555.0	555.2	555.4	555.5	555.0	554.8	554.5	554.2	553.7	553.2	552.9
3°	555.0	555.2	555.4	555.5	554.9	554.7	554.4	553.9	553.3	552.7	552.5
3.5°	554.8	555.1	555.3	555.5	554.9	554.5	554.1	553.5	552.9	552.2	551.9
4°	554.7	555.0	555.2	555.3	554.8	554.4	553.8	553.1	552.4	551.7	551.4
4.5°	554.4	554.8	555.1	555.2	554.6	554.1	553.4	552.7	551.9	551.1	550.6
5°	554.2	554.6	555.0	555.0	554.4	553.9	553.0	552.2	551.4	550.4	550.0
5.5°	553.9	554.3	554.7	554.8	554.1	553.5	552.6	551.7	550.6	549.7	549.3
6°	553.4	554.0	554.4	554.5	553.8	553.1	552.1	551.2	550.0	549.0	548.6
6.5°	553.0	553.7	554.1	554.2	553.4	552.7	551.6	550.5	549.3	548.2	547.7
7°	552.5	553.2	553.8	553.8	553.0	552.2	551.1	549.9	548.6	547.3	546.8
7.5°	552.0	552.7	553.3	553.3	552.6	551.7	550.5	549.1	547.7	546.5	546.0
8°	551.5	552.2	552.8	552.9	552.1	551.2	549.8	548.4	546.9	545.6	545.0
8.5°	550.8	551.7	552.3	552.3	551.6	550.4	549.1	547.5	546.0	544.6	544.0
9°	550.1	551.2	551.8	551.8	551.0	549.8	548.3	546.7	545.1	543.6	543.0
9.5°	549.4	550.4	551.2	551.2	550.3	549.2	547.5	545.8	544.1	542.6	541.8
10°	548.7	549.8	550.4	550.4	549.6	548.4	546.7	544.8	543.1	541.4	540.7
10.5°	547.9	549.1	549.7	549.7	548.9	547.5	545.9	543.8	541.9	540.3	539.5
11°	547.0	548.3	549.0	549.0	548.1	546.7	544.8	542.8	540.8	539.0	538.2
11.5°	546.1	547.4	548.2	548.2	547.2	545.8	543.8	541.7	539.7	537.8	537.0
12°	545.2	546.6	547.3	547.3	546.3	544.8	542.8	540.5	538.4	536.6	535.6
12.5°	544.2	545.7	546.4	546.4	545.5	543.8	541.7	539.4	537.1	535.1	534.2
13°	543.1	544.6	545.5	545.4	544.4	542.8	540.6	538.1	535.7	533.8	532.8
13.5°	541.9	543.5	544.4	544.3	543.4	541.6	539.5	536.8	534.4	532.3	531.3
14°	540.8	542.5	543.4	543.3	542.3	540.5	538.2	535.5	532.9	530.9	529.7
14.5°	539.7	541.3	542.4	542.2	541.2	539.3	536.9	534.1	531.5	529.3	528.2
15°	538.4	540.3	541.2	541.0	540.0	538.1	535.5	532.6	529.9	527.7	526.6
15.5°	537.1	538.9	540.0	539.8	538.7	536.8	534.2	531.3	528.4	526.1	524.9
16°	535.7	537.7	538.7	538.4	537.4	535.4	532.7	529.6	526.7	524.3	523.1
16.5°	534.4	536.4	537.4	537.1	536.1	534.1	531.3	528.1	525.1	522.7	521.3
17°	532.8	535.0	536.0	535.7	534.8	532.6	529.7	526.4	523.4	520.9	519.5
17.5°	531.4	533.6	534.7	534.3	533.4	531.2	528.1	524.8	521.5	519.0	517.6
18°	529.8	532.0	533.1	532.8	531.9	529.6	526.5	523.0	519.8	517.1	515.6
18.5°	528.3	530.6	531.7	531.2	530.3	528.0	524.9	521.2	517.9	515.1	513.7
19°	526.5	529.0	530.0	529.7	528.7	526.3	523.1	519.4	515.9	513.0	511.6
19.5°	524.9	527.3	528.5	528.1	527.0	524.6	521.3	517.5	514.0	511.1	509.5
20°	523.1	525.6	526.8	526.4	525.4	522.9	519.5	515.6	512.0	509.0	507.4
20.5°	521.3	523.8	525.1	524.6	523.6	521.1	517.6	513.6	509.8	506.8	505.2
21°	519.4	522.1	523.2	522.9	521.7	519.3	515.5	511.5	507.8	504.6	502.9



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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°	513.5	516.3	517.6	517.1	516.1	513.4	509.4	505.2	501.0	497.6	495.9
23°	511.3	514.3	515.5	515.1	514.1	511.3	507.4	502.8	498.7	495.3	493.4
23.5°	509.2	512.2	513.6	513.0	511.9	509.2	505.1	500.6	496.3	492.7	490.9
24°	506.9	510.0	511.4	511.0	509.8	507.0	502.8	498.2	493.9	490.4	488.3
24.5°	504.7	507.9	509.2	508.7	507.7	504.8	500.5	495.9	491.3	487.7	485.6
25°	502.3	505.6	506.9	506.4	505.4	502.4	498.2	493.4	488.7	485.1	482.9
25.5°	500.0	503.3	504.7	504.1	503.1	500.1	495.9	490.8	486.2	482.5	480.2
26°	497.6	500.9	502.3	501.9	500.7	497.7	493.4	488.3	483.5	479.7	477.5
26.5°	495.1	498.5	500.0	499.5	498.2	495.3	490.8	485.7	480.8	476.9	474.6
27°	492.5	496.1	497.4	497.0	495.8	492.8	488.3	483.0	478.0	474.1	471.7
27.5°	489.9	493.5	495.0	494.4	493.4	490.3	485.6	480.3	475.2	471.2	468.8
28°	487.3	490.9	492.4	491.8	490.8	487.7	482.9	477.4	472.3	468.3	465.9
28.5°	484.6	488.2	489.7	489.2	488.1	485.0	480.2	474.6	469.4	465.2	462.8
29°	481.9	485.6	487.0	486.5	485.4	482.2	477.3	471.7	466.5	462.3	459.7
29.5°	479.0	482.9	484.4	483.8	482.7	479.5	474.5	468.8	463.4	459.1	456.6
30°	476.1	480.0	481.5	481.0	479.9	476.6	471.6	465.8	460.4	456.0	453.4
30.5°	473.3	477.1	478.7	478.1	477.1	473.8	468.7	462.8	457.2	452.8	450.1
31°	470.2	474.2	475.8	475.2	474.1	470.8	465.6	459.7	454.1	449.6	446.9
31.5°	467.2	471.2	472.8	472.2	471.2	467.8	462.6	456.5	450.9	446.2	443.5
32°	464.1	468.1	469.8	469.2	468.2	464.8	459.5	453.4	447.6	442.9	440.2
32.5°	460.8	465.0	466.7	466.1	465.1	461.7	456.3	450.1	444.3	439.5	436.6
33°	457.7	461.9	463.6	463.0	462.1	458.6	453.1	446.9	440.9	436.1	433.3
33.5°	454.4	458.7	460.4	459.9	458.9	455.4	449.8	443.4	437.5	432.5	429.7
34°	451.0	455.4	457.2	456.6	455.6	452.1	446.5	440.0	434.0	428.9	426.1
34.5°	447.7	452.0	453.9	453.3	452.2	448.7	443.1	436.6	430.5	425.4	422.4
35°	444.3	448.6	450.6	450.0	449.0	445.4	439.7	433.2	427.1	421.8	418.9
35.5°	440.7	445.2	447.2	446.5	445.6	442.0	436.2	429.6	423.4	418.1	415.2
36°	437.2	441.8	443.6	443.2	442.3	438.6	432.8	425.9	419.7	414.4	411.4
36.5°	433.6	438.2	440.1	439.7	438.7	435.1	429.2	422.4	416.1	410.7	407.7
37°	430.0	434.5	436.6	436.2	435.3	431.5	425.6	418.9	412.3	406.9	404.0
37.5°	426.3	430.9	433.1	432.6	431.6	427.8	422.0	415.1	408.5	403.1	400.0
38°	422.5	427.2	429.4	428.9	428.0	424.3	418.3	411.3	404.8	399.2	396.2
38.5°	418.8	423.4	425.6	425.3	424.3	420.5	414.5	407.6	401.0	395.4	392.3
39°	415.0	419.6	421.9	421.5	420.7	416.8	410.8	403.8	397.1	391.4	388.4
39.5°	411.0	415.8	418.1	417.8	416.9	413.0	406.9	399.9	393.2	387.5	384.5
40°	407.1	411.8	414.3	413.9	413.1	409.3	403.0	395.9	389.3	383.6	380.5
40.5°	403.1	407.9	410.3	410.1	409.3	405.3	399.1	392.0	385.3	379.4	376.5
41°	399.0	403.9	406.4	406.2	405.2	401.4	395.2	388.0	381.3	375.5	372.4
41.5°	394.9	399.8	402.3	402.2	401.4	397.4	391.2	384.1	377.4	371.5	368.3
42°	390.8	395.8	398.4	398.3	397.4	393.4	387.2	380.2	373.2	367.3	364.2
42.5°	386.7	391.6	394.3	394.2	393.4	389.4	383.2	376.0	369.1	363.3	360.2
43°	382.5	387.4	390.2	390.2	389.5	385.3	379.1	372.0	365.0	359.0	356.0
43.5°	378.3	383.3	386.1	386.2	385.3	381.2	375.0	367.8	360.9	354.9	351.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	365.2	370.2	373.3	373.5	372.7	368.5	362.4	355.4	348.2	342.1	339.2
45.5°	360.7	365.8	368.9	369.3	368.4	364.2	358.1	350.9	344.0	337.9	335.0
46°	356.2	361.4	364.5	364.9	364.1	359.8	353.8	346.7	339.7	333.5	330.6
46.5°	351.7	356.6	360.1	360.5	359.7	355.5	349.4	342.3	335.2	329.2	326.3
47°	346.9	352.1	355.5	356.0	355.4	350.9	344.8	337.8	330.7	324.7	321.7
47.5°	342.1	347.3	350.8	351.5	350.9	346.4	340.3	333.2	326.3	320.1	317.2
48°	337.4	342.4	346.2	346.8	346.2	341.8	336.0	328.8	321.7	315.5	312.6
48.5°	332.3	337.5	341.2	342.0	341.6	337.3	331.1	324.1	317.0	310.9	307.8
49°	327.3	332.6	336.3	337.4	336.9	332.3	326.3	319.2	312.0	305.9	302.9
49.5°	322.0	327.4	331.3	332.3	332.0	327.4	321.3	314.3	307.1	300.9	297.8
50°	316.6	322.0	326.1	327.2	326.9	322.5	316.4	309.3	301.9	295.7	292.5
50.5°	311.0	316.3	320.7	321.7	321.6	317.4	311.2	303.9	296.7	290.2	287.1
51°	305.5	310.9	315.1	316.4	316.3	311.8	305.6	298.4	291.1	284.8	281.6
51.5°	299.5	304.9	309.3	310.8	311.0	306.3	300.1	292.8	285.7	279.5	276.2
52°	293.6	299.3	303.6	305.1	305.2	300.6	294.4	287.0	279.8	273.7	270.4
52.5°	287.7	293.1	297.7	299.0	299.4	294.7	288.5	281.2	274.2	268.0	264.8
53°	281.7	287.1	291.7	293.3	293.5	288.9	282.6	275.4	268.5	262.4	259.3
53.5°	275.9	281.1	285.8	287.3	287.7	283.2	276.8	269.9	263.1	257.2	254.2
54°	270.4	275.6	280.1	281.9	282.0	277.4	271.3	264.4	257.9	251.9	248.8
54.5°	264.6	269.9	274.4	276.2	276.3	272.0	265.8	258.8	252.2	246.2	243.2
55°	257.9	263.2	268.0	269.8	270.5	265.9	259.7	252.5	245.8	239.9	236.9
55.5°	250.6	255.9	260.9	262.8	263.7	259.3	252.7	245.5	238.1	232.0	229.3
56°	242.0	248.0	252.6	254.6	256.2	251.8	244.9	237.0	229.5	223.6	220.7
56.5°	232.9	239.1	243.8	246.0	247.8	243.5	236.5	228.2	220.7	214.4	211.5
57°	223.1	229.2	234.5	236.8	238.9	234.2	227.2	219.0	211.2	204.9	201.8
57.5°	212.9	218.7	224.8	227.5	229.5	224.6	217.5	209.4	201.6	195.4	191.8
58°	202.2	208.1	214.7	217.9	220.0	214.4	207.2	199.3	191.7	185.3	181.8
58.5°	191.7	197.4	204.3	208.1	210.3	204.4	197.0	189.4	181.9	175.7	171.7
59°	180.6	186.9	193.9	198.1	199.9	193.4	186.2	178.8	171.6	165.5	161.4
59.5°	170.0	176.0	183.2	187.5	189.5	182.8	175.5	168.2	161.5	155.5	151.3
60°	159.0	165.5	172.6	177.1	179.0	172.2	164.7	157.4	151.4	145.6	141.6
60.5°	148.6	155.1	161.8	166.4	168.5	161.9	153.9	147.2	141.4	135.7	131.8
61°	138.2	144.8	151.0	155.6	157.7	151.4	143.5	136.5	131.2	126.2	122.2
61.5°	128.0	134.9	140.7	144.6	147.3	141.6	133.2	126.4	121.4	116.8	112.8
62°	118.2	124.7	130.5	133.9	137.0	131.2	123.3	116.3	111.8	107.7	103.9
62.5°	108.7	115.1	120.5	123.2	126.5	121.3	113.3	106.5	102.9	99.2	95.6
63°	99.4	105.6	110.6	112.9	116.4	111.6	104.6	97.7	94.0	90.7	87.2
63.5°	90.4	96.3	100.7	102.4	106.7	102.7	95.8	88.8	85.0	82.1	78.8
64°	81.7	87.2	91.4	92.7	97.5	93.6	87.0	79.9	76.1	73.6	70.5
64.5°	73.5	78.7	82.2	83.3	88.3	84.7	78.2	71.1	67.3	65.1	63.1
65°	66.0	70.4	73.4	74.4	78.9	75.7	69.5	63.3	59.6	57.6	56.2
65.5°	58.3	62.5	65.2	66.1	69.7	66.8	61.6	56.1	52.5	50.5	49.9
66°	50.5	54.8	57.1	58.0	61.2	58.6	54.5	49.6	45.8	44.1	44.0



TEST NUMBER: P775837

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	33.1	35.3	36.8	37.6	39.5	38.3	35.9	33.0	28.9	29.0	29.6
68°	29.3	31.3	32.9	33.7	33.7	32.6	30.8	28.8	25.0	25.5	26.0
68.5°	25.5	27.3	29.2	29.7	28.7	27.7	26.5	25.1	21.9	22.8	23.0
69°	21.8	23.4	25.5	25.9	24.5	23.6	23.1	22.0	19.6	20.5	20.5
69.5°	17.9	19.5	21.8	22.0	21.2	20.6	20.2	19.5	18.0	18.6	18.5
70°	17.0	17.6	18.0	18.0	18.7	18.4	18.1	17.7	17.1	17.2	17.3
70.5°	16.2	16.5	16.8	16.8	17.2	17.1	17.0	16.7	16.3	16.4	16.4
71°	15.2	15.6	16.0	16.0	16.3	16.3	16.2	15.8	15.4	15.5	15.6
71.5°	14.4	14.9	15.2	15.2	15.5	15.4	15.3	15.0	14.5	14.7	14.8
72°	13.6	14.1	14.4	14.4	14.7	14.7	14.6	14.3	13.8	14.0	14.1
72.5°	12.8	13.3	13.7	13.7	14.0	13.9	13.8	13.5	12.9	13.2	13.4
73°	12.0	12.5	12.8	12.9	13.3	13.2	13.1	12.7	12.2	12.4	12.6
73.5°	11.3	11.8	12.1	12.2	12.5	12.4	12.3	12.0	11.5	11.7	11.9
74°	10.7	11.1	11.5	11.5	11.8	11.7	11.7	11.3	10.8	11.0	11.2
74.5°	9.9	10.4	10.8	10.8	11.1	11.1	11.0	10.6	10.0	10.4	10.6
75°	9.3	9.7	10.2	10.2	10.5	10.4	10.4	9.9	9.4	9.6	9.9
75.5°	8.7	9.1	9.5	9.5	9.8	9.7	9.7	9.3	8.9	9.0	9.3
76°	8.1	8.5	8.9	8.9	9.2	9.2	9.1	8.7	8.3	8.5	8.8
76.5°	7.6	7.9	8.3	8.4	8.7	8.6	8.6	8.2	7.8	8.0	8.2
77°	7.0	7.4	7.8	7.9	8.1	8.1	8.0	7.7	7.1	7.4	7.7
77.5°	6.5	6.8	7.3	7.4	7.6	7.6	7.5	7.0	6.6	6.8	7.1
78°	6.0	6.3	6.7	6.8	7.0	7.0	6.9	6.5	6.1	6.3	6.5
78.5°	5.6	5.9	6.2	6.3	6.5	6.5	6.4	6.0	5.6	5.8	6.1
79°	5.2	5.4	5.8	5.9	6.0	6.0	5.9	5.5	5.2	5.3	5.6
79.5°	4.7	5.0	5.4	5.4	5.6	5.6	5.5	5.1	4.8	4.9	5.2
80°	4.4	4.6	4.9	5.0	5.2	5.2	5.1	4.7	4.4	4.5	4.8
80.5°	3.9	4.1	4.5	4.6	4.8	4.8	4.7	4.2	3.9	4.0	4.4
81°	3.5	3.7	4.1	4.2	4.4	4.4	4.2	3.8	3.5	3.6	3.9
81.5°	3.2	3.4	3.7	3.8	3.9	3.9	3.8	3.5	3.2	3.3	3.5
82°	2.9	3.1	3.4	3.4	3.6	3.6	3.5	3.1	2.9	2.9	3.2
82.5°	2.5	2.7	3.0	3.1	3.2	3.2	3.1	2.8	2.5	2.6	2.9
83°	2.2	2.4	2.7	2.8	2.9	2.9	2.8	2.5	2.2	2.3	2.6
83.5°	2.0	2.1	2.4	2.5	2.6	2.6	2.5	2.2	2.0	2.0	2.3
84°	1.7	1.8	2.1	2.2	2.3	2.3	2.2	1.9	1.7	1.8	2.0
84.5°	1.5	1.6	1.8	1.9	2.0	2.0	1.9	1.6	1.5	1.5	1.7
85°	1.2	1.3	1.6	1.7	1.8	1.8	1.7	1.3	1.2	1.2	1.5
85.5°	0.9	1.0	1.3	1.5	1.5	1.5	1.3	1.0	1.0	0.9	1.2
86°	0.8	0.8	1.1	1.1	1.2	1.2	1.1	0.8	0.8	0.7	1.0
86.5°	0.6	0.6	0.9	0.9	1.0	1.0	0.9	0.7	0.6	0.6	0.8
87°	0.4	0.5	0.7	0.8	0.8	0.8	0.7	0.5	0.4	0.4	0.6
87.5°	0.3	0.4	0.5	0.6	0.6	0.6	0.6	0.4	0.3	0.3	0.5
88°	0.2	0.3	0.4	0.4	0.5	0.5	0.4	0.3	0.2	0.2	0.3
88.5°	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2



TEST NUMBER: P775837
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

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: P775837

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	554.8	554.8	554.8	554.8	554.8	554.8
0.5°	554.6	554.2	554.4	554.7	555.0	555.1
1°	554.3	553.9	554.2	554.6	555.0	555.1
1.5°	554.0	553.5	553.9	554.5	555.0	555.2
2°	553.5	553.2	553.5	554.3	554.9	555.1
2.5°	553.1	552.8	553.2	554.0	554.7	555.0
3°	552.6	552.3	552.8	553.7	554.5	555.0
3.5°	552.1	551.8	552.4	553.3	554.3	554.8
4°	551.5	551.3	551.9	552.9	554.0	554.7
4.5°	550.9	550.6	551.4	552.5	553.7	554.4
5°	550.2	549.9	550.9	552.0	553.2	554.2
5.5°	549.4	549.3	550.2	551.5	552.8	553.9
6°	548.7	548.6	549.5	551.0	552.3	553.4
6.5°	548.0	547.7	548.8	550.2	551.8	553.0
7°	547.0	546.9	548.2	549.6	551.3	552.5
7.5°	546.2	546.0	547.3	548.9	550.6	552.0
8°	545.2	545.1	546.4	548.1	550.0	551.5
8.5°	544.2	544.0	545.5	547.3	549.2	550.8
9°	543.2	543.0	544.4	546.4	548.5	550.1
9.5°	542.1	541.9	543.5	545.5	547.6	549.4
10°	540.9	540.8	542.5	544.5	546.8	548.7
10.5°	539.7	539.7	541.3	543.5	545.9	547.9
11°	538.5	538.4	540.2	542.5	545.0	547.0
11.5°	537.2	537.2	538.9	541.3	544.0	546.1
12°	535.8	535.8	537.7	540.2	542.9	545.2
12.5°	534.5	534.5	536.5	538.9	541.8	544.2
13°	533.0	533.0	535.1	537.7	540.7	543.1
13.5°	531.5	531.6	533.7	536.4	539.5	541.9
14°	529.9	529.9	532.2	535.0	538.2	540.8
14.5°	528.4	528.4	530.8	533.7	536.9	539.7
15°	526.8	526.8	529.2	532.2	535.5	538.4
15.5°	525.1	525.2	527.4	530.7	534.2	537.1
16°	523.3	523.4	525.8	529.1	532.7	535.7
16.5°	521.5	521.6	524.1	527.4	531.2	534.4
17°	519.8	519.9	522.4	525.8	529.6	532.8
17.5°	517.7	517.9	520.6	524.1	528.1	531.4
18°	515.8	516.1	518.6	522.4	526.3	529.8
18.5°	513.9	514.0	516.8	520.5	524.6	528.3
19°	511.8	512.0	514.8	518.6	522.9	526.5
19.5°	509.7	509.8	512.7	516.8	521.1	524.9
20°	507.6	507.8	510.7	514.8	519.2	523.1
20.5°	505.3	505.5	508.6	512.7	517.3	521.3
21°	503.0	503.2	506.3	510.7	515.3	519.4



TEST NUMBER: P775837

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	495.9	496.2	499.6	504.0	509.1	513.5
23°	493.5	493.7	497.1	501.8	506.9	511.3
23.5°	490.9	491.2	494.7	499.5	504.7	509.2
24°	488.3	488.6	492.2	497.0	502.4	506.9
24.5°	485.7	486.0	489.5	494.6	500.0	504.7
25°	483.0	483.3	486.9	492.0	497.6	502.3
25.5°	480.2	480.6	484.4	489.5	495.1	500.0
26°	477.5	477.8	481.7	486.8	492.6	497.6
26.5°	474.6	475.0	479.0	484.3	489.9	495.1
27°	471.7	472.1	476.1	481.5	487.4	492.5
27.5°	468.8	469.1	473.2	478.7	484.7	489.9
28°	465.8	466.1	470.3	475.9	482.0	487.3
28.5°	462.7	463.1	467.4	473.0	479.2	484.6
29°	459.6	460.0	464.2	470.1	476.3	481.9
29.5°	456.4	456.9	461.2	467.1	473.4	479.0
30°	453.1	453.6	458.0	464.0	470.5	476.1
30.5°	449.9	450.4	454.7	460.8	467.4	473.3
31°	446.7	447.1	451.6	457.7	464.3	470.2
31.5°	443.2	443.8	448.3	454.5	461.2	467.2
32°	439.8	440.2	444.9	451.3	458.0	464.1
32.5°	436.3	436.8	441.5	447.9	454.8	460.8
33°	432.9	433.4	438.2	444.6	451.6	457.7
33.5°	429.4	429.8	434.5	441.3	448.2	454.4
34°	425.7	426.1	431.0	437.7	444.8	451.0
34.5°	422.0	422.6	427.5	434.2	441.4	447.7
35°	418.4	418.8	423.9	430.7	437.8	444.3
35.5°	414.7	415.3	420.1	427.1	434.3	440.7
36°	411.0	411.4	416.5	423.4	430.7	437.2
36.5°	407.2	407.8	412.8	419.8	427.2	433.6
37°	403.5	404.0	408.9	416.1	423.4	430.0
37.5°	399.5	400.0	405.1	412.3	419.7	426.3
38°	395.7	396.1	401.2	408.4	415.9	422.5
38.5°	391.9	392.3	397.3	404.6	412.1	418.8
39°	387.8	388.3	393.4	400.8	408.2	415.0
39.5°	383.9	384.3	389.5	396.7	404.4	411.0
40°	379.9	380.4	385.4	392.8	400.5	407.1
40.5°	375.9	376.3	381.3	388.7	396.5	403.1
41°	372.0	372.3	377.4	384.7	392.4	399.0
41.5°	367.8	368.0	373.1	380.6	388.3	394.9
42°	363.8	364.1	369.1	376.6	384.3	390.8
42.5°	359.7	359.8	364.9	372.5	380.0	386.7
43°	355.5	355.8	360.9	368.2	375.9	382.5
43.5°	351.4	351.6	356.5	364.0	371.7	378.3

TEST NUMBER: P775837

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	338.8	338.9	343.7	351.1	358.8	365.2
45.5°	334.6	334.6	339.3	346.8	354.3	360.7
46°	330.2	330.1	334.9	342.3	349.8	356.2
46.5°	325.9	325.6	330.4	337.8	345.2	351.7
47°	321.4	321.2	325.8	333.1	340.6	346.9
47.5°	316.8	316.4	320.9	328.4	335.8	342.1
48°	312.1	311.7	316.1	323.5	330.8	337.4
48.5°	307.3	306.7	311.3	318.5	325.9	332.3
49°	302.4	301.7	306.2	313.3	320.9	327.3
49.5°	297.3	296.6	300.9	308.3	315.6	322.0
50°	292.0	291.1	295.5	302.7	310.2	316.6
50.5°	286.6	285.8	290.0	297.2	304.5	311.0
51°	281.1	280.2	284.5	291.7	298.9	305.5
51.5°	275.5	274.6	278.7	286.1	293.2	299.5
52°	269.7	269.0	273.3	280.3	287.3	293.6
52.5°	264.1	263.4	267.7	274.5	281.1	287.7
53°	258.8	258.1	262.3	269.0	275.6	281.7
53.5°	253.5	253.1	257.2	263.7	270.1	275.9
54°	248.4	247.9	251.9	258.5	264.8	270.4
54.5°	242.7	242.1	246.2	252.6	258.9	264.6
55°	236.6	235.4	239.9	246.3	252.5	257.9
55.5°	229.3	227.6	232.0	238.4	244.8	250.6
56°	220.5	218.9	223.4	229.7	236.2	242.0
56.5°	211.3	209.5	214.0	220.6	226.8	232.9
57°	201.8	199.7	204.3	210.9	217.4	223.1
57.5°	191.8	189.5	194.4	201.1	207.4	212.9
58°	181.8	179.1	184.4	191.1	197.2	202.2
58.5°	171.3	168.9	174.2	181.1	186.1	191.7
59°	160.9	158.5	164.0	170.5	175.9	180.6
59.5°	150.6	148.6	153.9	160.3	165.3	170.0
60°	140.4	138.6	144.0	150.0	154.4	159.0
60.5°	130.4	128.8	134.0	139.6	143.6	148.6
61°	120.5	118.9	124.1	129.3	133.3	138.2
61.5°	111.2	109.9	114.6	119.4	123.3	128.0
62°	102.9	100.6	105.4	109.4	113.0	118.2
62.5°	94.6	91.9	96.3	99.8	103.5	108.7
63°	86.3	83.5	87.4	90.4	94.0	99.4
63.5°	78.0	75.4	79.0	81.5	85.0	90.4
64°	69.7	67.6	70.6	72.9	76.2	81.7
64.5°	62.8	60.6	62.9	64.9	68.4	73.5
65°	56.2	53.8	55.5	57.3	60.7	66.0
65.5°	50.1	47.6	48.6	50.2	53.6	58.3
66°	44.3	41.8	42.1	43.8	47.0	50.5



TEST NUMBER: P775837

CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	30.2	29.8	29.6	31.0	32.0	33.1
68°	26.4	26.4	26.3	27.3	28.3	29.3
68.5°	23.2	23.0	23.0	23.7	24.7	25.5
69°	20.6	19.6	19.7	20.1	20.9	21.8
69.5°	18.5	17.8	17.9	18.2	18.6	17.9
70°	17.2	16.8	16.9	17.1	17.2	17.0
70.5°	16.4	16.1	16.2	16.3	16.3	16.2
71°	15.6	15.2	15.3	15.5	15.5	15.2
71.5°	14.8	14.5	14.6	14.7	14.7	14.4
72°	14.1	13.7	13.8	14.0	13.9	13.6
72.5°	13.3	12.9	13.1	13.3	13.2	12.8
73°	12.5	12.2	12.3	12.4	12.3	12.0
73.5°	11.9	11.6	11.6	11.8	11.6	11.3
74°	11.2	10.9	11.0	11.1	11.0	10.7
74.5°	10.6	10.3	10.4	10.5	10.3	9.9
75°	9.9	9.6	9.7	9.7	9.6	9.3
75.5°	9.3	9.0	9.1	9.2	9.0	8.7
76°	8.8	8.5	8.5	8.6	8.4	8.1
76.5°	8.2	7.9	8.0	8.0	7.8	7.6
77°	7.7	7.4	7.5	7.5	7.3	7.0
77.5°	7.1	6.8	6.9	6.9	6.7	6.5
78°	6.6	6.4	6.4	6.5	6.2	6.0
78.5°	6.1	5.9	6.0	6.0	5.8	5.6
79°	5.7	5.5	5.5	5.6	5.3	5.2
79.5°	5.3	5.1	5.1	5.1	4.9	4.7
80°	4.9	4.7	4.7	4.7	4.5	4.4
80.5°	4.5	4.2	4.2	4.2	4.0	3.9
81°	4.0	3.9	3.9	3.9	3.7	3.5
81.5°	3.6	3.5	3.6	3.5	3.3	3.2
82°	3.3	3.2	3.2	3.2	3.0	2.9
82.5°	3.0	2.9	2.9	2.9	2.6	2.5
83°	2.7	2.5	2.6	2.5	2.3	2.2
83.5°	2.4	2.3	2.3	2.2	2.0	2.0
84°	2.1	2.0	2.0	2.0	1.8	1.7
84.5°	1.8	1.7	1.8	1.7	1.5	1.5
85°	1.6	1.5	1.5	1.5	1.2	1.2
85.5°	1.3	1.2	1.2	1.2	0.9	0.9
86°	1.0	1.0	1.0	1.0	0.8	0.8
86.5°	0.9	0.8	0.8	0.8	0.6	0.6
87°	0.7	0.6	0.6	0.6	0.5	0.4
87.5°	0.5	0.4	0.4	0.4	0.4	0.3
88°	0.3	0.3	0.3	0.3	0.2	0.2
88.5°	0.2	0.1	0.1	0.1	0.1	0.1



TEST NUMBER: P775837
CATALOG NUMBER: HCDJBL510CSD-HCD81TRMW-1000lm-3500K

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°	517.4	520.2	521.4	521.0	519.9	517.3	513.6	509.4	505.6	502.3	500.6
22°	515.4	518.3	519.5	519.2	518.0	515.3	511.5	507.4	503.4	500.1	498.2



44°	373.9	379.0	381.8	381.9	381.1	377.0	370.8	363.8	356.6	350.6	347.7
44.5°	369.6	374.6	377.5	377.8	377.0	372.7	366.6	359.5	352.5	346.5	343.5



66.5°	43.4	48.0	49.7	50.7	53.4	51.3	47.6	43.4	39.5	38.3	38.7
67°	37.0	41.3	42.9	43.7	46.3	44.5	41.4	38.0	33.7	33.3	33.9



89°	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	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°	500.7	501.0	504.1	508.6	513.3	517.4
22°	498.3	498.7	501.9	506.3	511.2	515.4



44°	347.2	347.4	352.4	359.8	367.4	373.9
44.5°	343.1	343.2	348.0	355.6	363.2	369.6

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66.5°	39.2	36.8	36.4	38.1	41.3	43.4
67°	34.6	33.4	32.9	34.5	35.7	37.0

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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)